DOCUMENT RESUME

ED 200 723 CE 028 400

| | |
|---|---|
| AUTHOR | Fraser, Bryna Shore |
| TITLE | The Structure of Adult Learning, Education, and Training Opportunity in the United States. Worker Education and Training Policies Project. |
| INSTITUTION | National Inst. for Work and Learning, Washington, D.C. |
| SPONS AGENCY | National Inst. of Education (ED), Washington, D.C. |
| PUB DATE | 80 |
| CONTRACT | 400-76-0125 |
| NOTE | 87p.; For related documents see CE 028 398-412. |
| AVAILABLE FROM | National Institute for Work and Learning, Suite 301, 1211 Connecticut Ave., N.W., Washington, DC 20036 (Order No.: PRM 1, $10.00). |
| EDRS PRICE | MF01 Plus Postage. PC Not Available from EDRS. |
| DESCRIPTORS | *Adult Education; *Adult Learning; *Adult Programs; Adults; Community Education; Correspondence Study; Costs; *Educational Opportunities; *Enrollment; Extension Education; Federal Programs; *Job Training; Nontraditional Education; On the Job Training; Postsecondary Education; Program Descriptions; State Programs |
| IDENTIFIERS | Private Industry |

ABSTRACT

Increasing numbers of American adults are engaged in many types of learning activities; a significant part of these learning activities are organized and structured. Record-keeping about institutionalized adult learning is often scanty, however, or even non-existent. As the social goal of a "learning society" has been articulated, it has become increasingly important to gain a firmer grasp of the whole of the organized adult learning structure. This monograph, aimed at those professionally engaged in education and training matters, and others concerned to know more about what the structure of organized learning opportunity for adults includes, describes the whole of the structure of organized adult learning opportunities. It includes a description of the education and training programs of private industry and business, all of postsecondary education, federal, state, and local government, the cooperative extension service, correspondence instruction, etc. Program objectives, expenditures, and enrollment data are provided for all of these programs. Recommendations for future action are given. (KC)

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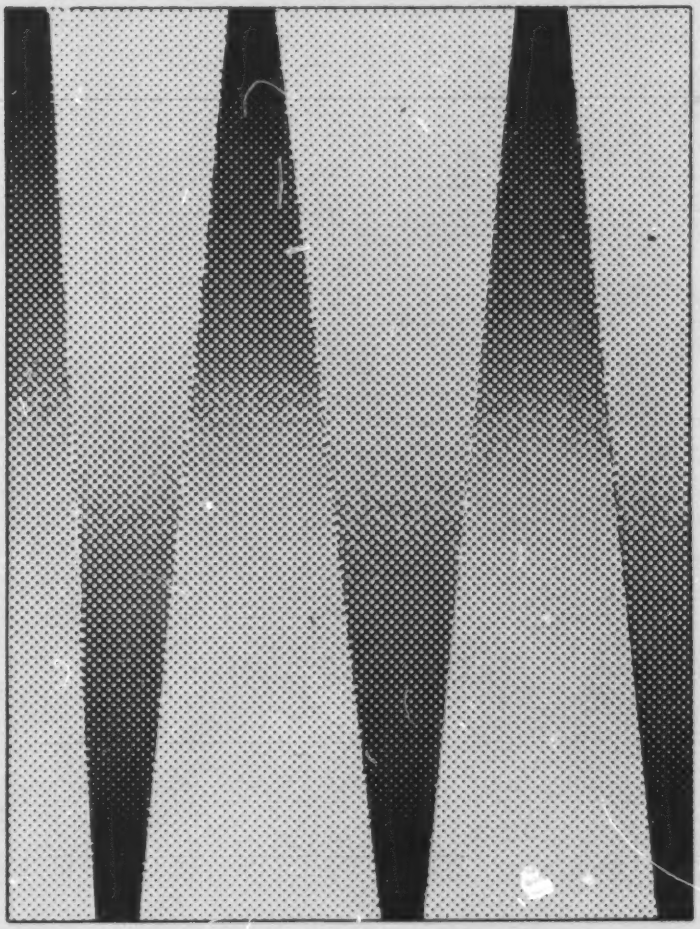

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# The Structure of Adult Learning, Education, and Training Opportunity in the United States

CE 028 400

Bryna Shore Fraser

1980

$ 10.00

This is one in a series of policy research monographs commissioned by the Project on Worker Education and Training Policies of the National Institute for Work and Learning.* Funding support for this project and the commissioned papers was provided by the National Institute of Education, U.S. Department of Education under contract number 400-76-0125.

The authors of the policy research papers in this series are knowledgeable analysts both from within and without the National Institute for Work and Learning. Their charge was to explore one or more issue areas which the project identified as being of significant interest to public and private sector decision makers concerned with shaping worker education and training policy and practice for the coming decade. Authors were asked to synthesize the relevant research bearing on the issue areas, to assess the knowledge base with a view to discerning the points of public and private policy relevance, and to use their best independent professional judgements in offering recommendations for action.

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THIS POLICY RESEARCH MONOGRAPH.

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## ERRATA

p. v, line 17: insert "have gained" after "lifelong learning".

p. v, line 21: should read "the disparate bodies"

p.4, lines 3 and 20: "NCES, 1978b" should read "NCES, 1978d"

p.7, line 8: "Higer" should read "Higher"

p. 18: the asterisk following "Average" refers not to the source but to the omitted definition of average as "Mean"

p. 20, line 5: "NCES, 1978b" should read "NCES, 1978d"

p.25, line 21 and p. 26, line 36: "(Ruyle and Geiselman, 1976)" should read "(Ruyle and Geiselman, 1974)"

p. 25, line 26: "(Cross et al., 1976)" should read "(Cross et al., 1974)"

p. 44, line 20: "(Brown, 1975)" should read "(Brown, 1976)"

p. 46, line 16: "(Daily Labor Report, Jan.3, 1975, p. 16)" should read "("Trade Act of 1974," p. 16)"

p. 53, line 26: "(Abott, 1977)" should read "(Abbott, 1977)"

p. 59, line 9: "(NCES, 1978)" should read "(NCES, 1978c)"

p. 60, last line: "NCES 1979" should read "NCES, 1978c"

p. 65, last line: should be referenced "(NCEUS, 1979)"

p. 67, line 20: should read "the regular labor force"

p. 68, line 20: should read "Vocational Education Data System (VEDS)"

p. 74, insert after line 9: "Peterson, R.E.; Cross, K.P.; Powell, S.A.; Hartle, T.W.; and Kutner, M.A. Toward Lifelong Learning in America: A Sourcebook for Planners. Prepublication copy. Berkeley, CA.: Educational Testing Service, 1978."

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# FOREWORD

As the 1980's begin, unprecedented numbers of adult Americans are engaged in learning activities of richly diverse kinds. A significant part of these learning activities are organized and structured.

Viewed as an institution or enterprise, organized adult learning is among the largest on the American scene as the 1980's begin. The obvious importance of this organized learning venture would commend it for being a closely watched matter. It is not. On certain dimensions our record keeping on parts of the organized adult learning enterprise is rigorous and detailed with respect to enrollments. This is particularly the case when enrollment figures translate into institutional support from State and Federal governments. Along other dimensions, such as completions of programs and the effects of participation, our record keeping runs from scanty to non-existent even for those parts of the organized learning structure we do regularly examine.

We have not, of course, viewed the whole of organized adult learning as an institution. But as the concepts of recurrent education and lifelong learning broader currency, and as "a learning society" has been articulated as a social goal, the importance of gaining some firmer grasp of the whole of the organized adult learning structure has become evident. Along with that appreciation has come the frustration of trying to piece together the disparate bodies of statistics, and to make sense of the conflicting definitions that abound and determine what data are gathered and how they are analysed.

The pages to follow reflect some significant trail blazing through that forest of data and definitions. Bryna Shore Fraser presents the reader with what is to our knowledge the most complete accounting of the whole of the structure of organized adult learning opportunity yet assembled.

In concise, clear exposition, Ms. Fraser takes us on a tour of the education and training programs of private industry and business, all of postsecondary education, Federal, State, and local government, the cooperative extension service, correspondence instruction and on. Program objectives, expenditures and enrollment data are provided, drawing on the best, current sources of information available.

Those professionally engaged in education and training matters, and others concerned to know more about what the structure of organized learning opportunity for adults embraces, will find this monograph an invaluable ally.

Gregory B. Smith
Director
Worker Education and Training Policies
Project

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## I. INTRODUCTION

In the United States today, there exists a diverse array of learning, education, and training opportunities for Americans of all ages in both the public and private sectors. Most of us are aware of some aspects of the educational options available to our children as they progress from elementary to secondary and, in increasing proportions, to postsecondary institutions. Numerous directories of these institutions are published every year to provide young people (and their parents) with an information base from which critical educational and career decisions can be made.

What we currently lack, however, is a similar resource base for adult education and training opportunities. We know that more and more adults are taking advantage of the variety of formal and informal learning opportunities being offered them by education institutions, employers, labor organizations, government, and community groups, to name but a few, but to our knowledge, no one has described the whole of this activity as part of a total, national educational opportunity structure. Indeed, a complete description of all the learning options currently engaged in by adults is probably impossible; we simply do not have an adequate system of record-keeping for formal learning activities, let alone for informal on-the-job or at-home training and education, and, what's more, the learning landscape is constantly changing. Furthermore, we do not have an agreed upon set of definitions and distinctions for "learning," "training," and "education." The range of definitions, particularly for training and education, is enormous, as indicated by the following

selected examples:

> ..."training" is usually aimed at helping employees learn specific work-related tasks or job information. The whole technology of training development, for example, is built from the assumption that you can state the objectives for the training in behavioral, observable, perhaps measurable terms. On the other hand, "education" is usually applied to learning experiences designed to provide general knowledge, skills and attitudes for living in today's world and coping with a wide range of information and situations. Admittedly, it is through the traditional educational systems that some of us develop work-related skills in typing, carburetor tune-ups...However, even in those skill areas, we often refer to the "training" someone received within their formal education (W. Frank Blount, Assistant Vice President, Training and Education, American Telephone and Telegraph Company, 1979, p. 3).

On the other hand, George Psacharopoulos, in his Education and Work: An Evaluation and Inventory of Current Research (1978), defines education as "not only the provision and demand for formal schooling at all levels, but on-the-job training as well" (p. 3).

In a national study entitled Education in Industry, conducted in 1975, Stanley Peterfreund equated training with technical or manual skill development, almost always related directly to a job and usually aimed at people in rank-and-file-jobs. Education was defined as being concerned with the development of the mind, the transmission of knowledge, and the ability to reason, directed less to the immediate needs of a job and more to the growth of the individual's knowledge base. In addition, Peterfreund used the term "development" to include both training and education as well as efforts aimed at "developing character, interpersonal skills, self-awareness, and other dimensions of personal growth and behavior" (Peterfreund, 1976, p. 31).

Because this paper is concerned with how and where adults, particularly workers or would-be workers, seek learning, education, and training opportunities, we will use the following hierarchy of definitions developed by Charner (1979):

- Adult learning is the process whereby individuals, 17 years of age or older, undertake formal or informal, organized or non-organized activities with the intention of bringing about changes in information, knowledge, understanding, or skills.
- Adult education is the process whereby individuals, 17 years of age or older, undertake formal or organized activities with the intention of bringing about changes in information, knowledge, understanding, or skills.
- Adult training is the process whereby individuals, 17 years of age or older, undertake formal or organized activities with the intention of acquiring new information, knowledge, understanding, or skills related to the roles and routines of a job or work position.

A definitive listing of all existing education and training opportunities for adults and a headcount of all the participants in the American learning force exceed the purpose of this paper. Our aim here is to put together a mosaic of the present education and training structure, indicating the wide range of available estimates as to how many adults, particularly workers and would-be workers, are taking advantage of this opportunity structure and which activities they are, and, just as importantly for our purposes, are not participating in.

## II. ADULT LEARNING ACTIVITIES

Estimates of the number of adults engaged in learning activities in the United States range from a conservative 11.6 percent of the adult population (NCES, 1978b to a high of 98 percent, when self-planned/self-directed learning is included (Tough, 1971). This range of estimates may seem incredible at first glance, but upon closer scrutiny we discover that the enormous discrepancies are attributable to significant differences in the way "learning" is defined, with "organized instruction administered by a teacher" at one end of the scale and "deliberate efforts to learn" at the other. The discrepancy is also due in some part to variations in the methodological approaches employed by researchers, e.g., the use of large-scale voluntary surveys as opposed to individual indepth interviews.

The National Center for Education Statistics, in a survey of participation in adult education conducted by the Census Bureau, reported that more than 17 million adults participated in adult education in 1975. In this survey, adults were defined as those 17 years of age or older who were not full-time students in high school or college, and adult education was defined as "organized learning to meet the unique needs of persons beyond compulsory school age who have terminated or interrupted their formal schooling" (NCES, 1978b, p. 1).

At the other end of the estimate range, the definition of learning activities is expanded to include self-planned/self-directed learning, frequently undertaken by an individual to satisfy a particular curiosity

and fill a specific need for information, e.g., studying the language and customs of a foreign country prior to a vacation. Estimates of adult participants in such learning run as high as 79 to 98 percent of the adult population (Tough, 1971; Penland, 1977). According to Tough, millions of adults are engaged in a wide variety of learning projects of varied scope and duration. "Adults will overcome all manner of obstacles of scheduling, distance, family arrangements, institutional frameworks, and personal inconvenience in order to learn what they think they have to learn or wish to learn in order to satisfy their personal and professional aspirations" (Ziegler, 1979, p. 8).

The Educational Testing Service's Project on Lifelong Learning, in Toward Lifelong Learning in America: A Sourcebook for Planners, separates adult learning into two categories: "deliberate learning" which includes that offered by schools, non-school organizations, and individually used sources, and "unintentional learning" which takes place in the home or at work and is gained from friends or through the mass media. Drawing from a wide range of recent surveys, mostly governmental, and amid a variety of caveats against regarding these figures as anything more than "rough estimates," the Project surmises that of our total population, including learners of all ages, there are

> ...a total of some 116 million deliberate learners in organizational settings in the U.S. Some 70 million, or 60 percent, are estimated to be in the school and college sector (42 million, 36 percent of the total, are in compulsory education); some 46 million, 40 percent, are involved in education and learning through non-school organizations. At the postsecondary level only, there are an estimated 64 million participants. Roughly 18 million (28 percent) are enrolled in schools and colleges, compared to the 46 million (72 percent) learning through non-school organizations (Peterson et al., 1978, p. 1-9).

If we exclude the 42 million learners engaged in compulsory education as well as the 10 million students enrolled in pre-primary education and even the 11 million participants in undergraduate, graduate, and professional education, we are left with a sizable group of 53 million learners, many of whom would fit the NCES definition of adult participants - individuals 17 years or older who are not full-time students in high school or college. The 53 million learners do not even include those persons relying on individually used learning resources (of whom there are millions, according to Tough and Penland), nor does it include figures for all those who engage in "unintentional learning," as this is "kind of a fact of life." In this paper, we will address ourselves to the somewhat more quantifiable area of adult learners engaged in deliberate education and training in both school and non-school organizations.

## Opportunity for What? Some Background

> Adult learning programs, as formal endeavors, involve every topic, are located everywhere, utilize every means, and are aided by almost every major agency in American life... (Roger DeCrow, "Programs and Providers of Adult Education: A National Overview", cited in DHEW, 1977a, p. 15).

Regardless of the wide range in estimates of the number of adult learners, it is clear that millions of American adults are taking advantage of the available opportunities for further education and training in this country. They are choosing from an ever widening smorgasbord of traditional and non-traditional offerings in an effort to get a promotion, find a new job, meet new people, launch a second career, or pursue a personal interest. All this has been happening within a larger context of increasing public discussion and activity regarding "lifelong learning," "recurrent education," and "continuing education," among a score of other phrases moving in and out of usage. How does our concern for worklife

education and training fit into this larger context?

We begin by examining what is meant by some of the new and not-so-new terminology surrounding the concept of education over the life span. "Lifelong learning," as defined by the Lifelong Learning Project of the Department of Health, Education, and Welfare, "refers to the process by which individuals continue to develop their knowledge, skills and attitudes over their lifetimes" (DHEW, 1978a, p. 2). The importance of this concept is further spelled out in Title I, Part B of the Higer Education Act of 1976, as follows:

> The Congress finds that--
> "(1) accelerating social and technological change have had impact on the duration and quality of life;
> "(2) the American people need lifelong learning to enable them to adjust to social, technological, political and economic changes;
> "(3) lifelong learning has a role in developing the potential of all persons including improvement in their personal well-being, upgrading their workplace skills, and preparing them to participate in the civic, cultural, and political life of the Nation;
> "(4) lifelong learning is important in meeting the needs of the growing number of older and retired persons;...

The Lifelong Learning Act, as the above legislation is called, goes on to enumerate the scope of lifelong learning as inclusive of, but not limited to,

> adult basic education, continuing education, independent study, agricultural education, business education and labor education, occupational education and job training programs, parent education, postsecondary education, pre-retirement and education for older and retired people, remedial education, special education programs for groups or for individuals with special needs, and also educational activities designed to upgrade occupational and professional skills, to assist business, public agencies, and other organizations in the use of innovation and research results, and to serve family needs and personal development.

Proponents of "recurrent education," another term in popular use during the 1970s, view learning and education from the not dissimilar

perspective of the need for "a lifelong process of assimilation of new knowledge and experience at the service of a continuous openness to new situations and of enhancing people's ability to take their destiny into their own hands..." (Mushkin, 1973). They too stress the increasing complexity of modern society and the growth of technology as mandating the need for a structure which will allow for alternating incidental and informal learning with more formal, intentional educational opportunities. Recurrent education is sometimes offered as an alternative to the traditional "front-end educational load model," in which "education is treated as an input of human capital that generally takes place during an individual's pre-productive years," i.e., during childhood and youth (Stein and Miller, 1972, p. 1). The concept of recurrent education as a system for acquiring segments of knowledge and skills beginning at the completion of compulsory education and continuing over the lifespan at the option of the individual has been advanced by the Center for Educational Reform and Innovation (CERI) of the Organization for Economic Cooperation and Development (OECD) as an alternative to the traditional education-at-one-sitting-for-the-young approach that is increasingly coming into question.

"Continuing education" has historically encompassed a variety of definitions. Until recently, continuing education was frequently a reference to formal instruction for professionals, such as doctors and teachers, particularly for purposes of relicensure or certification. In the last decade, however, the phrase has taken on a broader definition, as evidenced by Title I of the Higher Education Act of 1965 (P.L. 89-329, as amended):

> ...the term 'continuing education program' means postsecondary instruction designed to meet the educational needs and interests of adults, including the expansion of available learning opportunities for adults who are not adequately served by current educational offerings in their communities.

In addition, many colleges and universities have adopted the continuing education unit (CEU), which indicates ten hours of participation in an organized education program not creditable toward a degree. These units serve as a marker or reward for accomplishment outside the formal degree structure.

The idea of providing education, training, and learning opportunities for adults is by no means a recent innovation in this country. General extension courses have been offered in the U.S. since President Van Hise of the University of Wisconsin stated in 1906 that "the boundaries of the campus must be coterminous with the boundaries of the State" (Ziegler, 1979, pp. 8-9). The process of citizenship education for new immigrants, the popularity of night schools among those who wanted a high school diploma but had to work long hours in order to make a living, and the venerable cooperative extension service available to those trying to live off the land all attest to the value working Americans have placed on continuing their learning beyond the traditional formal limits as does local, state, and federal government assumption of responsibility for providing learning opportunities for adults. What seems to be a recent development, however, is the growing sentiment that access to further education and training is no longer simply a privilege of the already privileged among us (in terms of levels of education and income) but is a need -- some would even say a "right" -- of all American workers and would-be workers desiring such opportunity.

One indicator of the growing interest in adult learning can be found in the increasing number of adults who are participating in

education,* according to information provided to the National Center for Education Statistics by the Bureau of the Census as part of its Current Population Surveys in 1969, 1972, and 1975. In 1957, a little over eight million people reported that they had taken part in some form of adult educational activity, representing 7.6 percent of the total eligible adult population. In 1969, that figure increased to slightly more than thirteen million participants or 10 percent of the population. Data for 1972 indicated that over fifteen and a half million people, or 11.3 percent of the population, had been engaged in a structured learning activity, while the latest figures available (1975) show that more than 17 million people, representing 11.6 percent of the population, participated in part-time organized learning. Clearly, more and more adults are taking advantage of the existing opportunity structure to obtain new knowledge and skills, as well as locating learning resources in a variety of institutions and organizations.

## Sources of Education and Training Opportunity in the United States

The range of education and training opportunities currently available to American adults is considerable and is offered by a wide variety of institutional providers. This paper uses the Sources of Education and Learning (SEL) typology proposed in Toward Lifelong Learning in America to set forth the estimates regarding participants, which we have collected, wherever possible, from the latest available data sources. We are particularly interested in piecing together

*As referenced earlier, adult education as defined by NCES is only "organized learning."

the sources of "deliberate education and learning" in the schools and in the non-school organizations, which are categorized in this paper as follows:

- Elementary and secondary schools (through Adult Basic Education)
- Public and private vocational, trade, and business schools
- Public and private two-year colleges and vocational/technical institutes
- Public and private four-year colleges and universities (including extension and continuing education programs)
- Private employers (business and industry)
- Government agencies (federal, state, and local)
- Military (training and voluntary education)
- Federal manpower programs
- Agriculture cooperative extension service
- Professional associations
- Labor organizations (including labor education, registered and unregistered apprenticeships)
- Community and religious organizations
- Free universities
- Correspondence instruction
- Private instruction (tutors)

How many adults are participating in each of these categories can only be estimated; as Table A indicates, the estimates range from a low of 37,215,000 to a high of 73,253,000 participants in deliberate education and training opportunities (excluding individually used sources). A closer look at the education and training providers and the number of users in each category will give us some idea of where the majority of adult learners are clustered and what institutions are currently responding to this growing population.

TABLE A.

THE STRUCTURE OF EDUCATION AND TRAINING OPPORTUNITY: NUMBER OF ADULT[1] PARTICIPANTS BY INSTITUTIONAL PROVIDER[2]

| INSTITUTIONAL PROVIDER | Number of Participants | Year Data Collected | Source of Information |
|---|---|---|---|
| Elementary or secondary schools | 1,626,000 | 1976 | NCES 1979 |
| Adult Basic Education | 660,000 | 1975 | NCES 1978d |
| Vocational, trade, or business schools | 1,469,000 | 1975 | NCES 1978d |
| Public | 814,000 | 1975 | NCES 1978d |
| Private | 628,000 | 1975 | NCES 1978d |
| Two-year college or voc/tech institute | 3,020,000 | 1975 | NCES 1978d |
| Public | 2,790,000 | 1975 | NCES 1978d |
| Private | 196,000 | 1975 | NCES 1978d |
| Four-year college or university | 3,257,000 | 1975 | NCES 1978d |
| Public | 2,358,000 | 1975 | NCES 1978d |
| Private | 904,000 | 1975 | NCES 1978d |
| Private business and industry | 5,800,000 | 1976 | Lusterman 1977 |
| | 2,605,000 | 1975 | NCES 1978d |
| | 5,900,000 | 1972 | Carp et al 1974 |
| | 16,000,000 | 1972 | Carnegie 1973 |
| Public sector employees, total | 3,000,000 to 4,000,000 | 1978 | Smith 1979 |
| Government employers[3] | 1,367,000 | 1975 | NCES 1978d |
| Federal government | 556,000 | 1977 | OPM 1979 |
| State and local governments | 732,000 to 1,464,000 | 1978 | Smith 1979 |
| Military employer | 1,825,000 | 1976 | DOD 1976 |
| Military training | 1,250,000 | 1976 | DOD 1976 |
| Voluntary education | 575,000 | 1976 | DOD 1976 |
| Labor organizations/Professional associations | 6,100,000 | 1977 | Peterson 1978 |
| | 1,035,000 | 1975 | NCES 1978d |
| Union labor education | 75,000 | 1977 | Peterson 1978 |
| Registered apprenticeships | 300,000 | 1976 | DOL 1977 |
| Unregistered apprenticeships | 200,000 | 1977 | Peterson 1978 |
| Community organizations | 7,400,000 | 1977 | Peterson 1978 |
| | 1,784,000 | 1975 | NCES 1978d |
| | 1,996,000 | 1972 | Oakes 1976 |
| | 10,968,000 | 1972 | NCES 1974 |
| | 4,200,000 | 1972 | Carp et al 1974 |
| | 10,000,000 | 1970 | Carnegie 1973 |
| Federal employment & training progs.[4] | 5,310,000 | 1976 | DOL 1977 |
| Cooperative extension service | 11,000,000 to 14,000,000 | 1975 | USDA 1976 |
| Correspondence instruction | 5,000,000 | 1976 | Macken et al 1976 |
| | 606,000 | 1975 | NCES 1978d |
| Private instruction | 1,184,000 | 1975 | NCES 1978d |
| Other[5] | 1,319,000 | 1975 | NCES 1978d |

Note: The format for this chart is based on Nolfi, 1977, Table 14, p. 23a.

[1] Includes persons 17 years of age or older.

[2] Where more than one source of data is available, alternate figures and sources are cited.

[3] Excluding military.

[4] Includes on-the-job training, institutional training, vocational rehabilitation, work experience, and public sector employment programs.

[5] Includes free universities, city recreation departments, parks and forests programs, etc.

## Adult Education in Elementary and Secondary Schools

Adult education programs can be found in most school districts throughout the United States. These programs are aimed primarily at those adults who did not complete elementary or secondary school and who wish to earn a high school diploma. Usually the course of study consists of preparing students to take and pass the General Education Development (GED) tests. In 1977, 517,847 persons took the GED exams, and 361,124 of them passed. Sixty percent of those who took the tests were 20 or older, with the average age of the candidates being 25. Almost 40 percent of the candidates indicated that they were taking the exams in order to gain entrance to additional education or training programs (GED Testing Service, 1977). Adult Basic Education (ABE) courses, which support achievement of functional literacy, with primary focus on those with less than a fourth grade education, serve about one-third of adult education participants in elementary and secondary schools; these courses are aimed at eliminating illiteracy and are funded, through the states, by the federal government in the amount of $100 million in FY 1979, under the Adult Education Act of 1966 and amendments. Other adult education school programs offer "English-as-a-Second-Language" courses for non-English-speaking immigrants as well as a variety of occupational/skill courses, most of which are non-credit-bearing. The majority of these programs are supported by funds from local and state revenues ($43 million in 1976), in addition to the federal ABE allocations. Most of the offerings are available at no or low cost to the participant, who typically attends the course at night in a local elementary, junior high, or high school. The number of participants is indicated in Table B.

TABLE B.

ADULT EDUCATION IN ELEMENTARY AND SECONDARY SCHOOLS: PARTICIPANTS AND FUNDING

| Program | Number of Participants | Funds Allocated | Year Data Collected |
|---|---|---|---|
| Adult Basic Education | 660,000 | $100,000,000 | 1975 |
| All other elementary and secondary programs | 966,000 | 43,000,000 | 1976 |

What are the educational and/or economic benefits of these programs for those who participate in them? According to the 1979 edition of The Condition of Education, "Through adult basic and secondary education programs, (in FY 1976) 118,071 participants received an eighth grade diploma, 128,886 entered high school, and 114,222 enrolled in other education." In addition, 18,983 persons were removed from public assistance, 61,610 found jobs, and 44,502 found better employment (pp. 198-199). This record is particularly impressive in view of the fact that while the number of participants in public school adult education courses may be small, it represents many of those adults who are most in need of educational assistance in order to obtain the minimal credentials necessary for entering the labor market. Those adults who already have the high school diploma or equivalent would be most likely to turn elsewhere in their search for further education and training opportunities.

Postsecondary Schools

Information on the number of individuals enrolled in education and training programs at postsecondary institutions is difficult to ascertain, due primarily to the varying and frequently overlapping definitions employed by different surveys. In the 1975 survey, for example, the NCES breakdown of adult participation, based on what institution sponsored the learning activity, was as follows:

| Institutional Sponsor | Number of Participants |
|---|---|
| A. Vocational, trade, business or flight school | 1,469,000 |
| 1. Publicly controlled | 814,000 |
| 2. Privately controlled | 628,000 |
| B. Two-year community college, junior college, or technical-vocational institute | 3,020,000 |
| 1. Public | 2,790,000 |
| 2. Private | 196,000 |
| C. Four-year college or university | 3,257,000 |
| 1. Public | 2,358,000 |
| 2. Private | 904,000 |

Vocational, trade, business, and flight schools. According to the above figures, more adult participants were enrolled in public vocational, trade, business, and flight schools in 1975 than in their private counterparts. According to a 1978 NCES survey of enrollments and programs in noncollegiate postsecondary schools, however, out of a total enrollment of 1,170,328 students, 819,940 participants were enrolled in private institutions while only 350,388 were enrolled in public schools. The data are not comparable, unfortunately, due to two factors, the first one being that the 1975 survey was conducted of individuals while the 1978 study involved institutional responses and the second one being differing definitions. The 1975 survey included "vocational, trade, business, or flight schools," while the definition of non-collegiate postsecondary schools with occupational programs in 1978 included schools classifed as "vocational/technical, technical institute, business/commercial, cosmetology/barber, flight, trade, arts/design, hospital, allied health, and other." According to the 1978 institutional survey, there were

twice as many students enrolled in the private schools despite the fact that the tuition rates for the private schools were almost five times as much as the public schools, as indicated in Table C.

And according to yet another report, there were a total of 3,066,000 students enrolled in noncollegiate postsecondary schools in October 1976. Some of the more detailed findings of this study revealed that over 60 percent of the women and more than 80 percent of the men enrolled were employed full-time. In addition, 55 percent of all the employed enrollees were working full-time and attending school full-time (DHEW, NCES, 1978e).

Adults generally enroll in noncollegiate postsecondary schools for one of two reasons: first, to gain employment or career skills which will enable them to secure a job or move ahead in their present one or, second, to pursue a personal interest related to leisure-time avocations, such as dance, music, karate, etc. In regard to the effectiveness of both the private and public schools in serving the career needs of their students, evidence to date is mixed, at best. In his 1974 study, Wilms found that only two out of ten graduates from both public and proprietary schools who choose professional or technical-level-training ever got the jobs they were preparing for. Eight out of ten graduates from lower-level clerical or service worker programs got jobs in their fields but, except for secretaries, barely earned the federal minimum wage. Wilms also found that public and private school graduates had about the same occupational success or, more accurately, lack of it. He concluded that "post-secondary occupational education, both public and private, maintains class and income inequalities rather than overcomes them" (Wilms, 1974).

TABLE C.

ENROLLMENTS AND CHARGES IN NONCOLLEGIATE POSTSECONDARY SCHOOLS WITH OCCUPATIONAL PROGRAMS BY PROGRAM AREA, 1978

| Program Area | Enrollment | | Average* Charges | |
|---|---|---|---|---|
| | Public | Private | Public | Private |
| Agri-business..... | 4,220 | 1,738 | $ 326 | $ 2,514 |
| Marketing/distribution... | 13,573 | 168,355 | 310 | 926 |
| Health occupations..... | 55,565 | 91,203 | 454 | 1,664 |
| Home economics..... | 6,406 | 1,182 | 344 | 1,149 |
| Business/office..... | 77,671 | 189,576 | 270 | 1,821 |
| Technical..... | 22,812 | 88,533 | 586 | 2,317 |
| Trades and industry..... | 170,141 | 279,353 | 315 | 1,155 |
| Total..... | 350,388 | 819,940 | $ 345 | $1,616 |

*Source: The Condition of Education, 1979, p. 102.

Nolfi, on the other hand, asserts that the curriculum and quality of instruction offered by the private schools are comparable to those in degree-granting institutions, that the graduates of these programs do as well as graduates of comparable programs in degree-granting institutions, and that the private vocational schools have higher completion rates (Nolfi, 1977). This is particularly significant, according to Nolfi, "for it has been shown that proprietary schools tend to attract students from a somewhat lower strata [sic] in socio-economic and verbal ability terms than do the public vocational schools and community colleges" (Ibid, p. 28).

According to at least one source, the noncollegiate schools, both public and private, will expand in the 1980s with the emergence of new occupational fields which require extensive education and training, such as data processing, administration, and human services, with substantial growth in the areas of allied health fields, office occupations, cosmetology, and barbering (Koester, 1979, pp. 98-100).

Two-year colleges and vocational/technical institutes. Two-year postsecondary institutions generally fall into one of four categories, representing various institutional arrangements and educational philosophies: (1) the junior college - a two-year institution offering a program acceptable toward the B.A. degree as well as a liberal arts program for those not interested in pursuing a B.A., and occupational/career training in specific job areas; (2) the branch campus - a two-year institution offering a program acceptable toward the B.A. and directly affiliated with a state university; (3) the technical institute - a two-year institution requiring a high school diploma or equivalency for admission and emphasizing occupational programs; and (4) the vocational-

technical center - a school which offers occupational programs almost exclusively and does not require a high school diploma for entrance.

The percent of participants in adult education enrolled in these institutions has increased substantially, from 11.9 percent in 1969 to 16.4 percent in 1975 (DHEW, NCES, 1978b). A variety of factors make these institutions appealing to adult learners including the range of courses offered, their accessibility, and the flexibility of scheduling.

According to Godfrey and Holmstrom (1970), the continuum of educational philosophies represented by these schools ranges from immediate job preparation, stressed most by the vocational-technical centers, through dual purpose institutions represented by the junior colleges and technical institutes, to concentration on preparing students for transfer to a four-year school by the branch campuses. Currently, enrollments in occupational programs surpass those in transfer programs (Gleazer, 1979).

In regard to the population served by these institutions, the full-time population, as would be expected, is predominately young. In the survey conducted by Godfrey and Holmstrom, of the 95 schools in the sample nearly half reported that 70 percent or more of their full-time students were under twenty years of age, although almost three-quarters of the schools reported some full-time students who were forty or older. The part-time students were generally older; 60 percent of the part-time students in branch campuses, 75 percent of those in junior colleges, and 95 percent of those in technical institutes were twenty or older (Godfrey and Holmstrom, 1970, pp. 18-19).

Another significant finding of the study was the fact that almost 75 percent of the male students and over 50 percent of the female students were employed. Not only was there a high rate of full-time employment

among part-time students (85.1% for males and 48% for females): the average work week for full-time male students was 26 hours, for female students - 20 hours.

What can we learn from this information? First of all, it is clear that the two-year postsecondary school population is a working population, with particular interest in the occupational pay-off of the programs they are enrolled in. Secondly, it appears that the two-year colleges are serving an extremely varied clientele "consisting of adults (the average age of community college students is twenty-seven), women, minorities, and the 'disadvantaged,' as well as substantial numbers of conventional postsecondary students" (Wirtz, 1975).

Community and junior colleges offer courses in career retraining and updating, for those currently employed as well as those seeking to enter or re-enter the labor market. Because the majority of the two-year schools are publicly supported, tuition and fees are generally low and affordable and because of their liberal admissions policies, they may be particularly attractive to those would-be adult learners who have not fared well within the traditional formal education system. These factors help explain the phenomenal growth which occurred between 1967 and 1977, when the public two-year institutions nearly doubled their share of total enrollments in institutions of higher education, totaling 3,913,000 students in 1977, or 34.3 percent of all the students enrolled in institutions of higher education in the United States (The Condition of Education, 1979).

Four-year colleges and universities. Both the two-year community and junior colleges and the four-year colleges and universities are increasingly drawing from an older clientele, as evidenced by the recent shift

in age distribution of all college students between October 1972 and October 1976, according to Bureau of the Census data. The data show that (a) the number of persons under 25 years of age is decreasing as a percentage of the total enrollment and that (b) there have been significant increases in the number of people enrolled from older age groups, as represented in Table D.

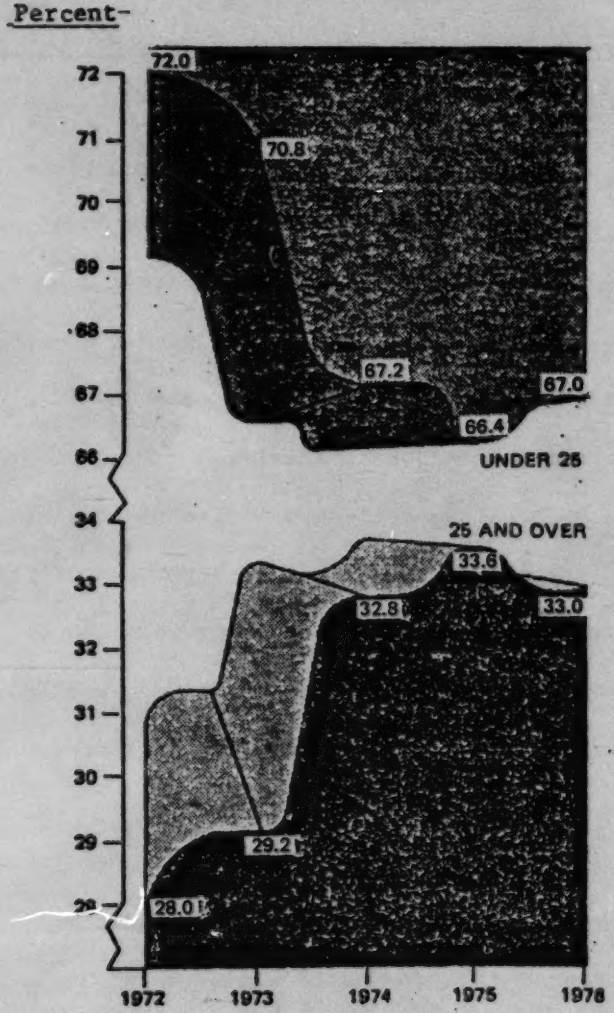
While the enrollment of persons under 25 decreased from 72 to 67 percent of the total college population, those from 25 to 29 years old went from 5.8 to 7.2 percent, and those 35 years old and over went from 8.6 to 10.7 percent. Much of the larger increase can be attributed to the growing number of women 35 and over enrolling in college; their actual number rose from 418,000 in 1972 to 700,000 in 1976, an increase of 67½ percent. In sum, there has been a 44.6 percent increase in enrollment figures for those aged 25 and over. In aggregate terms, both the two-year and four-year institutions now find themselves in the position of relating to an older clientele.

According to the 1975 NCES adult education survey, four-year colleges and universities are the course sponsors most frequently cited by participants in adult education who are not full-time students in high school and college. Over 19 percent of adults participating in adult education (or 3,257,000 individuals) are enrolled in four-year colleges or universities, although the percentage has been declining, due perhaps to the increasing number of two-year colleges and community organizations offering adult-oriented courses.

Colleges and universities have long been involved in the further education of adults through their continuing education and extension departments. Approximately 1,230 four-year institutions of higher

TABLE D.

THE AGE STRUCTURE OF COLLEGE ENROLLMENT:
1972-1976




Source: The Digest of Education Statistics, 1977-78, p. 91.

education operate such programs or variations thereof (DHEW, 1977b). In general, the range of courses is broad and varied, although usually not for degree credit. According to Peterson et al., the participants in these programs are usually well-educated and fairly well-off, while the programs are generally supported almost entirely from student fees. These fees vary considerably, depending on whether the course is for credit or not and whether the institution is public or private. It is interesting to note that the number of four-year institutions with extension/continuing education programs has more than doubled since 1967-68, while the number of non-credit participants, on a national basis, declined slightly during the same period (Peterson et al., 1978). This increase in extension/ continuing education programs may reflect recent moves on the part of these institutions to attract a new clientele to offset declining enrollments at the undergraduate level.

The data on adult education participation do not include those adults who are full-time students at either the undergraduate or graduate level, yet increasingly access to these options is being opened up to adults, as admissions qualifications are eased, traditional programs are restructured, and classes are more conveniently scheduled and located to meet the needs of a wider variety of students.

Colleges and universities are providing more learning opportunities for adults through two separate approaches: adapting the delivery of traditional programs to accommodate a non-traditional student population and offering non-traditional programs to both traditional and non-traditional students. Some of the modifications being made to the traditional course offerings include:

1. Scheduling classes at times other than during the morning or afternoon, when the majority of adults are at work. More classes are now being held at night or even on weekends.
2. Offering classes at locations other than just the main campus. Courses are being given at regional campus centers as well as libraries, employment sites, union halls, and even on commuter trains!
3. Using the media to transmit courses, lectures, and reading materials. A number of courses are being given through local newspapers; others are televised and are shown, through the use of cable TV, several times during the week. Another use of television involves taping lectures so that students may come in and view the tapes at times convenient to their schedules.
4. Easing admissions requirements and formal entry qualifications for certain courses of study, including the granting of credit for life experience.
5. Encouraging greater use of independent study, which may be more challenging and appropriate to the needs of adult learners.

Despite the fact that the great majority of colleges and universities still expect their adult students to enroll in regular academic programs (Ruyle and Geiselman, 1976), over the last decade there has been marked growth in the development of non-traditional programs in colleges and universities. These programs have been founded on two basic principles: "that opportunity should be equal for all who wish to learn and that learning is a lifelong process unconfined to one's youth or to campus classrooms" (Cross et al., 1976).

In a study conducted for the Commission on Non-Traditional Study in 1972, Ruyle and Geiselman found that:

- Students in three out of four American colleges and universities can earn undergraduate degrees entirely on a part-time basis. (The figure for public community colleges is nine out of ten -- more than any other type of institution.)

- Part-time students are eligible for some financial aid in more than half of the schools that allow them to earn degrees entirely on a part-time basis, but one-third of the schools have no financial aid for part-time students.

- Separate counseling and advisement services for adults are offered in less than 10 percent of the schools surveyed.

- Of the programs designed for non-traditional students, over half were for housewives and working adults, while 48 percent were aimed at special occupational groups, such as health workers or government employees.

- Sixty-two percent of the programs include occupational and career preparation in the curriculum. Most of the occupational preparation programs are off-campus courses of short duration which lead to a certificate or to an associate or graduate degree.

- Nearly two out of three programs use some form of technological teaching aid, such as tape cassettes, programmed instruction, videotapes, and talkback TV.

The overall implications of this survey are somewhat disturbing. Despite the statement that "'there is something for everyone somewhere in the accredited colleges and universities across the United States,'" the authors conclude that

> in many institutions that claim to welcome the part-time or adult student, the special needs of these potential students are not being met - needs for lower fees, special counselors, counseling, financial aids, business and job placement, offices open at times when the student is on campus, child care, grants, work-study jobs. More community colleges than other institutions try to provide for the needs of part-time and adult students (Ruyle and Geiselman, 1976, p. 91).

To the best of our knowledge, there are no <u>comprehensive</u> directories of available non-traditional programs and practices for adults in the United States. We do know that non-traditional learning opportunities

include a broad spectrum of activities at the postsecondary level. Some of these options open to adult learners through four-year colleges and universities include:

Independent study (full-time/part-time)
Three-year B.A. degree
Individual learning contracts
External degrees
Internships/work-study programs
Correspondence or home study courses
Tutorial study courses
Televised instruction
Computer-assisted instruction
Cassette-based courses

In addition, credit may be granted for such diverse experiences as:

Learning in proprietary schools
Learning in industrial/in-service training programs
Study abroad
Learning in community-based groups
Volunteer work
Employment experience
Artistic achievement
Military service
Learning in the military

Other services which may be offered to adult learners include:

Special counseling for adults
Child care services
Credit by examination without course enrollment requirements
Admission for adults over the age of 25 without a high school diploma or equivalency certificate

Although it is beyond the scope of this paper to discuss all of the options cited above in any great detail, it will be useful to examine, if only briefly, some of the more recent developments and their particular suitability in meeting the learning needs of adults.

One of the most frequently cited forms of non-traditional post-secondary education for adults is the external degree program. Houle (1973) defines the external degree as "one awarded to an individual on the basis of some program preparation (devised either by himself or by an educational institution) which is not centered on traditional patterns of

residential collegiate or university study" (Houle, 1973, p. 9). He goes on to differentiate further among three types of external degrees:

- The extension degree...is one awarded on completion of a coherent and complete traditional degree program...at a time or place accessible to those who cannot come to the campus or whose other responsibilities make it necessary for them to spread their study over a longer period than does the student on campus. In admission, instruction, evaluation, and certification, few or no changes are made (Ibid, p. 88).

- The adult degree...was developed in the belief that adults...are so different from young people that a program of studies designed for men and women should be based at every point on their maturity. Such a degree may depart completely from traditional patterns...or it may mix new elements with old ones...(Ibid, p. 89).

- The third-generation external degree, emphasizing assessment and demonstration of competence, is developing on the basis that one or more of the traditional procedures of higher education - admission, teaching, evaluation, certification, or licensure - can be so modified or separated from the others that the actual learning of the student, rather than his completion of formal requirements, can become the center of attention and the basis of the awarding of the degree (Ibid, p. 90).

An example of this latest "third-generation" external degree program is the New York Regents External Degree, which requires only preparation for (in any way the student chooses) and successful passage of a set of examinations. People from the ages of 19 to 74 have participated in this program across the country. More than 85 percent of the participants are employed on a full-time basis, with most of them serving in the military or as nurses, followed by teachers, business people, police, and homemakers. Currently, 12,000 are working toward a Regents External Degree; 5,000 have already graduated. The cost of obtaining the degree varies, dependent on how the necessary credits are earned; if entirely by examination, costs range from $400 to $850 (Gross, 1977b, pp. 16-17). According to Houle's assessment, "this program breaks profoundly with the past so far as every major procedural point is concerned" i.e., there

are no formal admissions requirements; all effective methods of learning are acceptable; and accomplishment is measured by a variety of methods (Houle, 1973, p. 97).

Many external degree programs have patterned themselves closely after Great Britain's successful Open University model, using a combination of seminars, TV and radio instruction, and correspondence material. At Empire State College, established by the State University of New York in 1971, students may design their own programs, working closely under learning contracts with regular faculty members or faculty from other institutions and with tutors affiliated with one of Empire State's 33 learning centers and units across New York State. As of March 1979, over 5,000 students had graduated from the College, and 3,200 were currently enrolled. For those students desiring more structure than that offered by learning contracts, Empire State has developed the Center for Distance Learning for those who cannot or prefer not to attend classes. Structured degree programs are made available through the Center, using educational materials that have been specifically designed for those who will be "learning at a distance." Study materials developed by the British Open University have been adapted and offered to small groups who have also had regular access to a tutor on a twice-weekly group study basis and to supplementary study materials. Currently, cooperative arrangements are being developed within the State University and with other institutions in hopes of increasing the range of courses and degree programs offered through the Center for Distance Learning (The British Open University Foundation, 1979, pp. 1-3).

In a 1977 study designed to learn more about external degree programs and the characteristics and experiences of degree holders, the

Bureau of Social Science Research identified 244 external degree programs in 134 colleges and universities. In 1976, these programs enrolled approximately 54,000 students; since their founding (mostly since 1972), 4600 A.A. and 14,000 B.A. degrees have been granted. A survey of 1500 degree recipients provided the following data, indicating program orientation toward students with basically traditional interests and aims:

- The B.A. graduates were predominately white, male, thirty to forty years old, married, and working in professional or sub-professional occupations.
- Four out of five students had been enrolled previously in a traditional degree program.
- In response to why they chose an external degree program rather than a traditional one, most of the respondents mentioned the chance to receive credit for all prior college course work, the ability to maintain a regular work schedule, and flexible scheduling and part-time study opportunities.
- Graduates placed low value on being able to convert life or work experience into academic credits.
- In regard to motivation, the satisfaction of having the degree was the highest ranked goal. Job-related benefits and the opportunity to gain access to further education were equally rated secondary motivations for external degree seekers.

In sum, the study concluded that, contrary to what many people believed, external degree programs were being used mainly by traditionally oriented degree seekers rather than offering new opportunities for previously unserved students. These programs represent only a

> tiny segment of a huge degree-granting enterprise; they seem to serve extremely well a very special group of degree seekers who cannot be accommodated by traditional programs or fenced in by bureaucratic and financial considerations designed for a younger student population. In fact, these programs admirably serve the needs of an older, well-prepared clientele (Sharp, 1979, p. 70).

One of the major innovative developments in bringing learning to the less traditional, not-so-well-prepared student is typified by the University of Mid-America (UMA). Using the medium of television, UMA broadcasts courses into the homes of 4,000 students located in a multi-state region of the midwest. To supplement the telecasts, if desired, the students have access to radio lectures, audio-cassettes, instructional mail kits, newspaper study lessons, toll-free telephone communications with teachers, and local learning centers. In early 1977, thirteen courses were being offered in Nebraska alone, where students ranged in age from 9 to 87, with the average age being 37. There are no admission requirements, and nearly half of the students have never attended college before. Approximately 75 percent of the participants are women, most of whom are enrolled for credit. More than a third of the students live in rural areas or remote small towns. For these learners, UMA represents frequently the only opportunity to work toward a college degree (Gross, 1977b, pp. 11-12).

The University Without Walls (UWW), formally initiated in 1971, calls itself "an alternative form of higher education," a "highly individualized form of undergraduate education, which abandons the sharply circumscribed campus and provides for independent self-directed study and work experience" (UECU Press Release p. 2). UWW is a national network of nearly thirty U.S. colleges and universities that have instituted UWW programs at their schools. In 1975, some 6,000 students, ranging in age from 16 to 70, were enrolled in individually planned programs to obtain degrees based mainly on off-campus learning and independent study. Admissions policies vary according to individual schools, from liberal to highly selective, but, once admitted, each

student follows a tailor-made program designed by the student and her/his adviser. Students have access to a variety of learning modes: regular courses, field experiences, independent study, individual and group projects, travel, and technological aids. Because there is no prescribed curriculum or uniform time schedule, graduation takes place when the student has achieved the learning objectives agreed upon in designing his/her program of study (University Without Walls, 1972, p. 4).

In summary, then, at the postsecondary level, both collegiate and noncollegiate education institutions seem to be moving towards greater flexibility in accommodating diverse new populations of would-be learners. Practices vary significantly, however, as does the level of institutional responsiveness to the special needs of adult workers in search of learning opportunities within the postsecondary structure. Thus far, it appears that the innovative approaches cited above represent, in most instances, isolated new departures from traditional delivery systems geared towards traditional student populations. With the decline in enrollment of traditional students, more postsecondary education institutions will find themselves in the challenging position of having to attract an older clientele and adapt to the differing needs and expectations of this non-traditional population.

Private Industry and Business

Attempts to determine the extent of education and training in business and industry have resulted in a variety of contradictory information, findings, and estimates. The one common area of agreement among all the studies is the conclusion that much more formal (and informal) education and training take place in the private sector than

have been acknowledged and that far more funds are being expended than have been recognized or recorded. The lack of a coordinated information recording or reporting system, together with the reluctance of private industry to release such information to those outside the corporate structure, results in a great lack of knowledge regarding the extent of education and training opportunities within the private sector. As Goldstein aptly states:

> How much and what kind of training goes on, who gives it, where it is given, who gets it, how much it costs and what good it does have not been measured adequately in the United States. This is interesting in view of the millions of workers involved, the billions of dollars spent, and the hoped-for effects on productivity, worker income, international competitiveness of the nation's economy, and equality of employment opportunity (Goldstein, 1979, p. 20).

Among the problems encountered in attempting to determine training activity in industry are the following: (1) informal learning under the tutelage of a supervisor or fellow worker is not included in any survey of employers, despite general agreement that this is the most prevalent form of training - no records are kept on this type of training; (2) few surveys contain a representative sample of companies - many of the studies which have been done have been conducted by surveying those firms whose interest in training was such that it led them to join an association concerned with training, whose membership was then surveyed; and (3) despite the fact that nonresponse in surveys usually indicates lack of interest in and less prevalence of the characteristic being measured among non-respondents, neither of the two most recent surveys on industry training (Lusterman 1977 and BLS 1977) made any use of information obtained from non-respondents, nor was there any effort to adjust their findings for non-response.

Having provided this somewhat bleak prefatory picture, what can we say about the extent of training and education provided by industry? The Lusterman study reported on responses received from 22 percent of all firms with 500 or more employees engaged in training and education activities for the period 1974-75. The formal training modes were identified as: (1) company courses, conducted by company staff or outside resources, held on or off company premises, during or after work hours; (2) tuition-aid programs, independently pursued by employees who receive full/partial reimbursement from the company, usually attended at local institutions of higher education after working hours; and (3) other outside courses, usually offered by professional or trade organizations or corporate trainers, taken during work hours.

The survey indicated that 89 percent of the responding firms provided tuition-aid for after-hours courses;* 74 percent offered other outside courses during work hours; 70 percent provided for company courses during work hours; 39 percent offered company courses after hours (Goldstein, 1979, p. 25). The survey, however, is not very clear regarding the numbers of employees receiving training and the kind of training they received, although the Table E provides some estimates.

As measured by distribution of expenditures and number of employees participating, the most frequent type of training provided by firms with 500 or more workers was company courses during work hours. These courses (and the percent of total employees enrolled in them) break down as follows:

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*This finding is supported by the results of a recent survey conducted by the American Management Society Committee of 500. Of 385 managers responding, 340 (88%) reported that their companies provided financial assistance to enable employees to pursue formal courses of study.

TABLE E.

NUMBER OF EMPLOYEES RECEIVING TRAINING
AND EDUCATION THROUGH PRIVATE INDUSTRY
BY TRAINING MODE

| Training Mode | Number of Employee Participants | Percent of all workers in Firms w/500+ Employees |
|---|---|---|
| Company courses | Total: 4.4 million | Total: 13% |
| 1. During hours | 3.7 million | 11% |
| 2. After hours | 700,000 | 2% |
| Tuition aid programs | 1.3 million | 4% |
| Other outside courses | 600,000* | |
| | Total: 6.3 million | 20% |

Reproduced with permission.

Source: Lusterman, 1977

*Estimate based on cost figures by Goldstein 1979.

| | |
|---|---|
| Management development/supervisory | 37% |
| Functional-technical (including production, maintenance, marketing, sales, administration, finance, personnel, etc.) | 61% |
| Basic remedial | 10% |
| Other | 10% |

Although tuition aid programs were reported as being offered by 89 percent of the responding companies, only 2 percent of all employees participated in after-hours training and education, of which tuition aid is one program. Approximately half of the companies paid all the costs of tuition, while the rest paid either 50 or 75 percent. The smaller firms in the survey favored tuition aid and other outside courses, lacking the numbers or resources to provide in-house training themselves.

Two studies provide some information on training in firms with less than 500 employees*. A pilot study conducted in 1970 covered the metal working industries, electric power, and telephone communications industries with plants of 50 or more employees. The survey found that 41 percent of the metal working plants responding provided training for specified occupations; only 32 percent of the small (50-249 workers) plants had training compared to 44 percent of plants with 250-999 workers and 71 percent of those plants with 1,000+ employees, with similar findings for the electric plants (Neary, 1974).

The second survey was conducted in 1974 of metal working plants with one or more employees of the training provided in 14 designated skilled crafts. Findings were based on a 59 percent response rate, with no reference to information obtained from 550 non-respondents. Only 15

*In both studies, only formal programs for skill development were included in the definition of training.

percent of the plants provided training, with 134,000 workers (or about 10% of all those employed in the 14 occupations) enrolled in training programs. Welders (34,000) and machinists (31,000) constituted the largest groups of trainees. Approximately 78,000 workers completed training in that year. The most common form of training was on-the-job and was designed to qualify workers to enter skilled jobs rather than for skill improvement. Nearly half of the on-the-job trainees were participating in apprenticeships (BLS, 1977).

In summary,

> From these diverse surveys, made at different times and including a range of size classes, a hazy picture emerges: formal training is provided by a good deal less than half of all firms, but by more than 8 out of 10 larger firms; and the number of workers involved in training in any one year amounts to about one in five in large firms, and a smaller proportion in all industry. Training is mostly given in company-sponsored courses during working hours. Training for skill development (as distinct from orientation, the firm's organization, safety, etc.) is only a part of the total. Much of the formal skill training is for management or other white collar skills; manual workers get a disproportionately small share of formal training (Goldstein, 1979, p. 31).

Figures on employer expenditures vary widely, due, in part, to the lack of records and the difficulties in enumerating the indirect costs of training (e.g. overhead and trainees' salaries). In an attempt to estimate the costs of education and training to business and industry, Tracey enumerated that previous estimates ranged from that of Fritz Machlup in 1962, $3 billion for 1958; Decarlo and Robinson in a Chase Manhattan Bank report in 1962, $17 billion; Boozer in 1971, $20 billion; Otto and Glaser in 1970, $25 billion. Tracey went on to report that in 1972 Willard estimated total training costs of $700 annually per employee in large firms - $200 in direct training and $500 in indirect costs (including lost productivity). Using the 1971 annual average

number of employees of private, non-farm, non-government establishments (57,836,000), Tracey assumed that if two out of three employees received some training at an average cost of $700, total industry expenditures would be about $27 billion; if three out of five received training, the cost would be approximately $24 billion (Tracey, 1974, p. 11). One estimate of total costs of employer-provided education and training in the U.S. (including government employees) runs as high as $100 billion in 1975 (Gilbert, 1976).

Lusterman estimates direct costs at about $2 billion ($1.6 billion for internal programs and .4 for outside resources) for the large firms surveyed. Goldstein estimates an additional $1 billion in direct training costs for the rest of the private sector and adds about $2 billion dollars in salary costs of trainees. After figuring in overhead costs and additional salary costs for managerial and professional workers who receive the bulk of training, Goldstein estimates a total training expenditure of approximately $10 billion (Goldstein, 1979, p. 35).

Until an adequate recording and measurement system is devised and implemented, it is clear that we shall have to continue to rely on the varying estimates and conjectures put forth regarding the extent of education and training in business and industry. Recommendations for developing such a system are proposed in the final section of this paper.

Government Employees

According to a recently released study of training in the public sector, there are approximately 19 million employees in the public sector at the federal, state, and local levels (Smith 1979). This workforce

is composed of all federal employees, uniformed members of the four military branches in the Department of Defense and Coast Guard, and state and local government employees.

The study estimates that "between three and four million persons receive government paid and/or sponsored training and education annually," including those in the military. Specific breakdowns by government agency are presented in Table F. The study also estimates the total cost of this education and training activity at between nine and ten billion dollars annually, including salaries of trainees, teachers, and support staff; tuition, fees, books, travel, and per diem costs; overhead and administration; and investment and procurement expenses (Smith 1979).

The Office of Personnel Management (formerly the U.S. Civil Service Commission) maintains fairly extensive data on federal employee training and education, while the Department of Defense keeps track for the military. Unfortunately, less information is available for other federal employees (the U.S. Postal Service, Tennessee Valley Authority, and Coast Guard), and little is known about the training and education experiences of the 12,000,000 people employed by state and local governments, although some data are available on local government employees from a 1975 study and are discussed later in this section.

For federal civilian employees, the objective of the learning experience, from the government's point of view, is to increase efficiency and effectiveness of operations by enhancing the skills, knowledge, and capabilities of employees in the performance of their jobs. According to 1977 data, the education and training engaged in by federal civilian employees involved further development of the employee's technical specialty in 29 percent of the instances, administration and analysis

TABLE F.

ESTIMATES OF PUBLIC SECTOR EMPLOYEE LEARNERS, 1978

| Government Organization | Number of Learners |
|---|---|
| Federal civilian employees | 515,000 |
| Armed Forces | |
| Military training | 1,590,000 |
| Voluntary education program | 575,000 |
| Subtotal | (2,680,000) |

| | Range of Estimates | | |
|---|---|---|---|
| | 25% of Federal Rate | - | 50% of Federal Rate |
| U.S. Postal Service | 37,500 | | 75,000 |
| Tennessee Valley Authority | 2,700 | | 5,400 |
| State and local governments | 731,000 | | 1,463,800 |
| Subtotal | (772,100 | - | 1,544,200) |
| TOTAL | 3,452,100 | to | 4,224,200 |

Sources: Smith, 1979, pp. 2-3; Peterson and Associates, 1979, p. 36.

in 19 percent, legal and scientific topics in 13 percent, supervisory principles in 11 percent, orientation to government service in 9 percent, clerical skills in 8 percent, trades or crafts in 5 percent, and basic literacy skills in 1 percent (Peterson et al,1978).

Over 99 percent of the education and training experiences are of short duration, averaging 41 hours; 74 percent are performed in-house; and 77 percent of those opportunities provided outside the government are standard academic courses. A finding of particular interest indicates that blue collar federal employees received only 8.7 percent of the education/training provided, although they represented 24 percent of the population. The higher occupational status General Schedule (GS) employees received over 86 percent of all education/training provided, while comprising 71 percent of all federal civilian employees. It was also found that those with higher GS ratings had proportionately more education/training experiences than those with lower ratings, a pattern which appears to lend credence to the belief that those with less education to begin with are less likely to obtain further education or training and have less opportunity to do so.

In contrast to the objective of education/training for civilian employees, the purpose of military training is to adequately train, principally, incoming personnel to assume specific jobs in military units. Characteristics of this training are as follows: over 33 percent of all DOD military training is designed to provide initial orientation and indoctrination; over 55 percent is specialized skill training; and over 95 percent is designed to provide new skills to participants. DOD offers over 7,000 different courses, ranging in length from five to twenty-five weeks. On any day of the year, an average of 214,000 people are in a

formal training course, with many people attending more than one course in a given year. Across the four military branches, over 90 percent of recruit training graduates go on to skill training schools.

In addition to the military training cited above, it is estimated that about 575,000 service people participate in the Voluntary Education Program, as part-time students during their free time at some 1,000 cooperating colleges and universities. Each branch of the military operates its own programs, through cooperative arrangements with civilian schools, with 75 percent of tuition costs reimbursed by the military.

There are also three major programs that are open to learners in all four branches of the military: (1) the Defense Activity for Non-Traditional Education Support (DANTES) administers several credit-by-examination programs including CLEP, ACT, SAT, and overseas GED and arranges for correspondence courses from civilian schools; (2) the Serviceman's Opportunity College (SOC) is a network composed of some 360 two-year and four-year postsecondary institutions that offers flexible residency and transfer policies to service personnel (recently instituting an associate degree program); and (3) the American Council on Education's Office on Educational Credit publishes the Guide to the Evaluation of Educational Experiences in the Armed Services, a three-volume series which serves as the standard reference work for awarding credit for learning obtained in the military (Peterson et al, 1978). Each of the branches also offers high school equivalency programs, and in 1975, 80,000 servicemen and women received diplomas through these programs.

Unlike the Department of Defense and the other federal agencies, the Postal Service does not collect detailed data on employee training, despite the fact that (or perhaps because) nearly all postal service

employees receive some training during their employment. Approximately 7,000 managers are trained annually at special facilities, while the Postal Service Technical Center in Norman, Oklahoma, provides 64 wide-ranging technical courses to about 4,300 students each year. In addition to the national training centers, there are about 200 Postal Employment Development Centers nationwide, as well as over 500 different local programs, but data on numbers of trainees served by these facilities are not currently available (Smith, 1979).

As with the Postal Service, current data on numbers of trainees and costs are not available from the Tennessee Valley Authority, although a one-shot survey conducted in 1977 yielded the following numbers of training instances:

| | |
|---|---|
| Courses, seminars, and symposia | 20,921 |
| Apprenticeship | 1,510 |
| Tuition reimbursements | 1,357 |
| Professional and technical meetings | 399 |
| Executive development | 28 |
| Total instances: | 24,215 |

(Source: Smith 1979, p. 3-33)

Full-time permanent employees receive training in a variety of fields relating to nuclear, hydro-electric, and chemical subjects, while trades and crafts employees are offered apprenticeship training as well as technical training in those areas of skill and operation needed to maintain TVA facilities. The TVA is currently conducting a study which may lead to the greater availability of data regarding the actual numbers of employees benefiting from the considerable training offered through their agency.

There are no aggregate data available on training and education for state and local employees. Several studies point to the State of California as the only state that conducts an annual survey of state agencies in order to prepare a training report to the Governor. According to the FY 1975 report, out of a total of 273,000, slightly more than 191,000 state employees in California were involved in some form of internal training. In addition, the State paid out more than $1,000,000 for education and training provided by outside sponsors (Seaton, 1977).

On the local level, a national survey was conducted in 1975 of cities of over 10,000 population by the International City Management Association, with the following results:

- Two-thirds of all cities operate training/education programs.
- Ninety percent provide on-the-job and specific skill development programs; 79 percent provide supervisory training; 40 percent offer programs in interpersonal relations; and 31 percent have team-building programs.
- Seventy-three percent of the cities use a college or university to provide the education/training program, while other major outside providers used include state agencies, private consultants, and professional associations (Brown, 1975).

In total, as noted previously, it is estimated that between three and four million public sector employees receive training and education paid for or sponsored by federal, state, or local governments at an approximate annual cost of nine to ten billion dollars. However, deficiencies in the data, particularly at the state and local levels, "clearly hamper sophisticated analysis of public sector training" (Smith, 1979, p. 1-6).

Federal Employment and Training Programs

The federal government, through its employment and training programs, provides significant education and training opportunities, particularly to those who are most in need of them. These programs "(1) operate outside the normal educational process, (2) provide skill training for nonprofessional jobs, (3) provide services for less than one year and (4) target on the disadvantaged or unemployed" (Special Analyses, 1978, p. 187).

Employment and training programs are classfied into seven major categories. Of primary concern to us here are: on-the-job training; institutional training; vocational rehabilitation; work experience; and public service employment. (The other two categories are labor market services and program support.) On-the-job training programs provide training for regular job openings by reimbursing employers for the additional costs of hiring disadvantaged persons, with the expectation that the employers will retain these workers after the period of reimbursement. Institutional training programs provide instruction in vocational skills and job-related remedial education in a classroom setting. Vocational rehabilitation programs offer skill training, counseling, allowances, and support services to help individuals overcome physical and mental handicaps to employment. Work experience provides temporary employment, usually part-time, mainly for youth and older workers. Public service employment provides jobs (which are intended to be transitional) in the public sector for persons who need to acquire work habits and skills to compete for regular jobs or who have trouble obtaining such jobs.

Although some federal programs fit entirely within one of the above categories, programs such as CETA and WIN offer a range of these

work and training options. In an effort to ascertain the number of people served on an annual basis by these federal programs, Table G indicates the number of individuals who entered the enumerated activities in 1976 under each of the major categories cited above. Unfortunately, the data do not separate out education and training for all the categories, and the data for youth are combined with those for adults. Nonetheless, the figures provide a rough idea of federally-sponsored education and training program participants.

In addition to the federal programs cited above, the Trade Act of 1974 specified that workers "adversely affected" by increased imports of articles similar to those produced by the workers' firms (i.e., workers laid off due to decrease in sales or production) were entitled to adjustment assistance benefits. These benefits include training and related services, where it is determined that "suitable employment (which may include technical and professional employment) would be available if the worker received appropriate training" (Daily Labor Report, Jan. 3, 1975, p. 16). The Act goes on to specify that, wherever possible, such training should be provided on the job.

According to recent figures released by the Department of Labor, out of an estimated 366,000 eligible workers, approximately 17,000 workers entered training between FY 1975 and FY 1978, with almost 14,000 completing training during that same period. Types of training provided are similar to those provided under CETA, such as machine tool, welding, secretarial, electronics, clerical, LPN,etc. These training slots are approved by local employment service staff on an individual referral basis and vary with labor market demands.

TABLE G.

NEW ENROLLEES IN SELECTED FEDERAL
EMPLOYMENT AND TRAINING PROGRAMS
1976

| CATEGORY | NUMBER OF NEW ENROLLEES |
|---|---|
| I. On-the-job training | |
| Employment and training assistance | 164,000 |
| WIN | 27,000 |
| OJT for Veterans | 35,000 |
| Other | 14,000 |
| Subtotal | 240,000 |
| II. Institutional training | |
| Employment and training assistance | 583,000 |
| WIN | 34,000 |
| Social service training | 1,437,000 |
| Other | 28,000 |
| Subtotal | 2,082,000 |
| III. Vocational rehabilitation | |
| HEW vocational rehabilitation | 395,000 |
| Veterans' vocational rehabilitation | 18,000 |
| Subtotal | 412,000 |
| IV. Work experience | |
| Employment and training assistance | 1,674,000 |
| Temporary employment assistance | 76,000 |
| Federal agency youth programs | 34,000 |
| WIN | 17,000 |
| Other | 49,000 |
| Subtotal | 1,849,000 |
| V. Public Service Employment | |
| Employment and training assistance | 298,000 |
| Temporary employment assistance | 419,000 |
| WIN | 9,000 |
| Subtotal | 727,000 |
| GRAND TOTAL | 5,310,000 |

In separate studies conducted by GAO, it was found that eligible apparel workers in Pennsylvania rarely sought training under the Act and that most New England workers covered by the Act received only income maintenance; few benefitted from training.* In general, it appears that only a small proportion of those eligible for training under the Trade Act of 1974 actually took advantage of this opportunity. "Obviously trade adjustment assistance has not demonstrated the exemplary virtues of training and retraining hoped for in facilitating shifts in labor and output to more competitive (or more productive) employments" (Stewart, 1979, p. 24).

Cooperative Extension Service Programs**

The State Cooperative Extension Services, through state and land-grant universities, work cooperatively with the Extension Service of the U.S. Department of Agriculture to provide educational services under four program categories: agriculture and natural resources; home economics; 4-H youth; and community resource development. These programs are designed with the active involvement of local people, in an effort to reflect local priorities and needs. Priority targets in most states include farmers and ranchers, agriculturally related businesses, farm and rural families, and rural communities.

In general, Extension Service agents use intensive individual and group contact methods, supported by mass media approaches to farmers and rural people, while mass media communication methods are most frequently

*Source: Conversations with Ola Reeves, ETA, DOL, March 1979.

**The material in this section is taken from Cooperative Extension Programs, Extension Service, USDA, Washington, D.C., June 1976.

used to serve urban consumers. In FY 1976, the federal outlay for extension work totaled almost $229 million, while state and county extension funds totaled almost $298 million, for a combined expenditure of $527 million.

These funds were expended in serving the following participants within each of the four program categories:

(1) 4-H Participants - In 1975, the number of youth participating in organized 4-H Clubs and 4-H special interest groups reached an all time high of more than 4,033,000. In addition, almost two million youth were enrolled in other 4-H related programs and activities.

(2) Agriculture and natural resources program participants - Extension agents and special agents conducting adult extension programs in agriculture and natural resources made 21.6 million contacts with farmers in 1975 (each contact does not represent a different individual). Over 3,000 extension agricultural agents and more than 3,000 specialists and area staff members devoted 760,000 staff days as follows: 70 percent of their time went to commercial farmers; 25 percent to small and low-income farmers; and 5 percent to home gardeners. The agriculture and natural resources program includes education, crop and livestock production, business management, marketing, and environment/natural resources.

(3) Home economics program participants - approximately 4,000 extension home economists, 7,000 paraprofessionals, and 700,000 volunteers assist ten million families annually to "identify their needs, make decisions, and utilize resources to improve their quality of home and family living" (USDA, 1976, p. 17). Topics include food and nutrition, family resource management, family life education, family health and safety, and textiles and clothing.

(4) Community resource development participants - In 1975, the Extension Service provided assistance to almost 51,000 community projects, conducted over 9,000 surveys and studies, and led about 55,000 workshops and conferences, reaching some two million people through its community development work. The program is designed to aid communities of 50,000 or less in making "sound community decisions that will increase economic opportunities and the quality of life in rural areas" (USDA, 1976, p. 18). Extension staff, particularly from area land-grant universities, work with local government officials on analysis of community needs, program strategies, human services, leadership skills, citizen participation, and governmental effectiveness.

While there is no doubt that the Cooperative Extension Service provides a wide array of education and training services to rural America, in particular, it is almost impossible to determine the actual number of people who learn through the Service in any particular year. Somewhere between 11-14 million may be appropriate, bearing in mind that such a figure would include brief, infrequent contacts as well as those of a more concentrated or lengthy duration.

Professional Associations

Unfortunately for our purposes in this paper, the 1975 NCES survey of participation in adult education did not separate out professional associations and labor organizations; they were combined into one category. Therefore, the figure of 1,035,000 participants in courses sponsored by "labor organization or professional association" put forth in the NCES survey does not allow for further breakdown. Other figures are at best incomplete but give us some idea of educational opportunities offered in

each of these categories.

Professional associations are composed of member practitioners within a particular occupational group and are aimed at advancing the interests of the occupation as a whole as well as enhancing the occupational competence of its individual members. These associations are organized on a national, regional, state, or local basis and consist of such diverse memberships as engineers, real estate brokers, doctors, secretaries, and sociologists.

There has been no comprehensive survey of the education and training opportunities offered by these various associations, although we do know a little bit about some of the offerings. In 1977, for example, The American Society of Mechanical Engineers conducted what it termed "a comprehensive survey involving a large majority of the major [engineering] societies." The survey yielded 57 responses (out of 100 inquiries), including all the major engineering and technical societies in the United States and Canada. Of the total respondents, 86 percent indicated continuing education programs were in operational, developmental,or planning stages. Those societies that indicated a program in the operational or developmental stages represented approximately one million members. Taking into account duplication of memberships, approximately 565,000, or 50 percent of the total number of engineers in the U.S. hold memberships in societies that are conducting or developing continuing education programs.

The societies reported that in 1977 approximately 1,100 courses, generally one to three days in duration, were offered to about 30,000 attendees, only 45 percent of whom were members of the sponsoring organization. Cooperative arrangements with other societies, universities, and proprietary organizations were often concluded to assist in the

presentation of programs. The survey concludes that there is "a substantial level of continuing education activity within these organizations" and that "the goals of most organizations include the expansion of continuing education in order to meet the current and future challenges of technical change" (Greenwald, n.d., p. 2).

Another major provider of education to its membership is the combined American Management Associations with its 792 staff members, 7,500 lecturers and discussion leaders, 2,000 "formal educational programs," and a budget of $31.8 million (Peterson et al, 1978, p. I-26).

Clearly, it would be useful to learn more about the kinds of educational opportunities offered by these professional societies to their members as well as to interested non-members, particularly if it is, in fact, true that "the professional society, utilizing its vast resources of membership, education, technology, knowledge, and standards, can be a catalyst in the development of new programs that will meet the challenges of technical obsolescence" (Greenwald, n.d., p. 1).

Labor Organizations

According to the Department of Labor, there are 224 national and international unions in the United States, including professional and state associations that are categorized as trade unions. These organizations represent approximately 20 million workers, many of whom are interested in obtaining further training and education and seek to do so either with the assistance or through the auspices of their local union. Peterson et al estimate that approximately 600,000 union members, or three percent of the total membership, are involved in education and training through four major types of programs:

I. Apprenticeship programs. Approximately 500,000 persons are enrolled as apprentices in jointly operated labor-management programs. Almost 300,000 of these are registered with the Bureau of Apprenticeship and Training in the Department of Labor and receive federal funding. (Employment and Training Report of the President, 1978, p. 371). Peterson et al and Swerdloff estimate that there are perhaps 200,000 unregistered apprentices in the U.S. As no records are maintained for unregistered apprenticeships, this remains a controversial and unresolved issue.*

II. Union education department courses. Approximately 75,000 union members participate in courses and institutes made available by union education departments, independent of any school or other outside institution. Most of these offerings are "tool" courses, such as shop steward training, leadership training, and contract analysis designed to improve understanding of unionism and to help union members in their duties as shop stewards and union administrators.

III. Labor studies programs. There are two types of labor studies programs: those offered through a university or college and those centers run by the unions themselves. According to Gray, there are forty-seven institutions of higher education that offer a major or concentration in labor studies, as well as numerous part-time degree programs that have been developed together with the unions (Charner, in press, p. 7). In particular, unions are engaging in more and more cooperative ventures with community colleges. In a 1977 survey, 214 community colleges (or 41% of those responding) indicated that they had developed programs at the request of unions. These programs included apprenticeship training, retraining and upgrading, and labor studies (Abott, 1977). Among those unions

*Based on conversation with Sol Swerdloff, Manpower and Education Research Associates, June 8, 1979.

actively promoting closer ties between local colleges and union members are the United Auto Workers, the AFL-CIO Education Department, the International Union of Electrical Workers, and the International Union of Operating Engineers.

The labor studies centers run by the unions also offer both degree and "tool" courses to their membership. The degree programs, made possible through affiliations with accredited institutions of higher education, are either in labor studies or liberal arts, with particular emphasis on labor-related issues. Tuition is generally free, as all of the union-operated labor studies centers are either sponsored or supported by union funds and offer programs designed exclusively for their members. Some of the better known centers include the Walter and Mae Reuther Family Education Center which offers education and training programs independently of any institution of higher education; the George Meany AFL-CIO Labor Studies Center which offers, in cooperation with Antioch College, an external degree program; and the College of New Rochelle/District Council 37 program (of the American Federation of State, County, and Municipal Employees) which "represents the first accredited four-year degree program on union premises in the history of America" (cited in Shore, 1979).

IV. Negotiated tuition-aid plans. According to the most recent data available, about 1,600,000 workers are covered annually under 198 negotiated tuition-aid plans in the United States (Charner et al, 1978).* Under the terms of these plans, the company agrees to provide financial aid to employees in order to enable them to pursue courses offered on or off company or union facilities. The most common form of tuition-aid is tuition reimbursement or advancement, with the former predominating. These

*Figures are negotiated tuition-aid plans in collective bargaining agreements for 1,000 or more workers.

plans pay for all or part of the tuition and related costs for employee enrollment in education and training courses outside of the company. In the majority of these plans, the education or training must be job-related, must be completed satisfactorily, and must not involve time-off from the job.

Another, less common form of tuition-aid is educational leave and leave of absence plans. Educational leave is provided to the worker to pursue education or training during working hours for a specified period, while leave of absence is generally for an extended period of time. Paid educational leave provides employees with part or all of their regular salary together with job security guarantees, while unpaid leave provides only job security and seniority guarantees.

A third form of tuition-aid is the training fund plan, under which employers set aside a specific amount of money per employee in a central fund to finance education and training opportunities for their employees. Usually administered by a board of trustees as part of an industry-wide or area-wide effort, these funds are sometimes used to establish a training institute. Occasionally, these funds are administered directly by the represented union, as in the case of AFSCME District Council #37 in New York City.

The last, and least frequently available form of tuition-aid, is the scholarship and educational loan program which offers financial grants to workers for education and training costs; the loans must be repaid according to a fixed schedule while the scholarships are outright grants.

While tuition-aid plans are generally available to a large number of workers and their families, the limited studies that have been conducted reveal that only a very small percentage and number of workers are taking

advantage of these plans. Those few studies examining worker participation rates have placed rates at between 3 percent and 5 percent, with significantly lower rates for blue-collar workers (Charner, 1979, p. 7). The National Manpower Institute is currently conducting three demonstration programs aimed at reducing barriers to worker participation and measuring consequent increases in the numbers of workers engaged in tuition-aid programs.

Community Organizations

In 1972, the National Center for Education Statistics conducted an extensive survey on adult education in community organizations. The categories of organizations included: churches; other religious groups; Y's and Red Cross; civic; social service; and cultural and other. It was determined that about 66,770 (or 28.5%) of such organizations sponsored formal programs of adult instruction serving almost 11 million participants (see Table H).

In addition, the NCES survey found the following percentages of registrants by content area in the community organization sponsored programs:

| | |
|---|---|
| Community issues | 30.9% |
| Religion | 29.3* |
| Personal and family living | 20.4 |
| Sports and recreation | 7.7 |
| Occupational training | 5.5 |
| General (including adult basic education) | 3.3 |
| Miscellaneous and unclassified | 2.9 |

*Ninety percent of these registrants are enrolled in churches.

The 1972 survey figure of almost 11 million participants in community organization adult education offerings stands in marked contrast to NCES' own figures for the participation in adult education surveys of 1972 and 1975, which reported figures of 1,996,000 and 1,784,000 respectively. In an effort to explain this discrepancy (of about nine million!), those reporting the higher figure stated that "Although this disparity of nine

TABLE H.

COMMUNITY ORGANIZATIONS WITH ADULT EDUCATION PROGRAMS, TOTAL PARTICIPANTS

| Type of Organization | Organization | | Participants | |
|---|---|---|---|---|
| | Number | Percent | Number (000's) | Percent |
| Total..... | 66,770 | 100.0 | 10,968 | 100.0 |
| Churches..... | 50,480 | 75.6 | 3,614 | 33.0 |
| Other religious..... | 3,310 | 5.0 | 474 | 4.3 |
| Y's and Red Cross..... | 3,360 | 5.0 | 3,050 | 27.8 |
| Civic groups..... | 3,730 | 5.6 | 1,175 | 10.7 |
| Social service..... | 4,350 | 6.5 | 2,285 | 20.8 |
| Cultural and other..... | 1,540 | 2.3 | 370 | 3.4 |

Source : NCES, 1974

million is large, a number of factors may help explain the difference. These factors include coverage, concept, duplication and memory" (NCES, 1974, p. 59).

As Moses aptly observes in his discussion of the "learning force,"

> These factors are essentially the same obstacles which affect all attempts to assess the universe of adult education. This refers to the definition of who is an adult (as regards age or other delineators of status), the conceptual approach as to what defines an educational activity, double counting which results from the tendency of people to take more than one course, and the errors in survey and response resulting from people tending to forget and misstate activities which occurred other than in the very recent past (Moses, 1975, p. 63).

These conditions undoubtedly contribute to the discrepancy in the other figures available on community organization sponsored learning. In 1970 the Carnegie Commission estimated that 10 million individuals were engaged in "other organized programs - e.g. TV, churches and synagogues, community organization, libraries and museums, etc." while in 1973 the Commission on Non-Traditional Study identified 4.2 million individuals participating in learning through "community organizations such as YMCA; musuems, galleries, and performing arts studies; and recreation and sports groups."

Whatever the actual figures, it is clear that millions of Americans are engaged in education and training through the myriad community organizations in existence today.* These groups include: (1) churches and synagogues and their sponsored organizations which offer traditional adult education programs, personal and family living assistance, as well as services to specific groups (day-care, summer school, etc.); (2) multipurpose organizations such as libraries, Y's, and racial / ethnic betterment organizations; (3) cultural/ intellectual groups such as historical societies, literary groups, theater groups, and college/university related associations; (4) personal improvement / awareness groups; (5) senior citizen groups; (6) youth programs, such as Scouts and athletic groups;

---

*This section is based on the typology of community organizations developed in Peterson et al., 1978.

(7) recreation organizations; (8) political organizations; (9) social service groups, such as Red Cross; (10) civic/service clubs; and (11) fraternal and social clubs.

Free Universities

Originating as radical, counterculture alternatives to conventional college instruction in the mid-1960's, the free universities grew from one in 1964 (at Berkeley) to 146 in 1978, with student registrations totalling 298,255 (by almost 200,000 individuals), according to a recent NCES report (NCES, 1978). Although most of these institutions are no longer "free," they are still committed to offering programs at the lowest possible charge. Based on the premise that "anyone can learn and anyone can teach," these institutions (two-thirds of which were founded after 1971) typically offer a wide range of courses of interest to the community-at-large with no grades, credits, or other formal credentials involved. Teachers are recruited, usually on a volunteer or part-time basis, courses and classroom locations are publicized through a catalog, and students are registered and charged a small fee at all but four of the free universities. Fees vary from one institution to another (at one free university, the registration fee was 25 cents).

According to the NCES study, the average budget for a free university in 1978 was $20,500; more than half, however, operated on less than $1,000 annually. Revenues were generated through registration fees, outside organizations, grants, and fund-raising. About two-thirds of the free universities are based at conventional colleges or universities, with funds and space frequently donated by the respective student governments. As seen in Table I, the most frequently offered learning

TABLE I.

CLASS SECTIONS IN FREE UNIVERSITIES BY SUBJECT:
UNITED STATES, 1978

| Subject | Total Sections Offered | Percent Of Total |
|---|---|---|
| Total | 19,361 | 100.0% |
| Agricultural and renewable natural resources | 538 | 2.8 |
| Arts, visual and performing | 3,861 | 19.9 |
| Business | 532 | 2.7 |
| Education | 304 | 1.6 |
| Engineering and engineering-related technology | 2,120 | 10.9 |
| Health care sciences and technology | 1,263 | 6.5 |
| Home economics | 2,936 | 15.2 |
| Personal services occupations | 65 | 0.3 |
| Language, linguistics, and literature | 1,382 | 7.1 |
| Law | 174 | 0.9 |
| Library/museum science | 33 | 0.2 |
| Life and physical sciences | 358 | 1.8 |
| Mathematics | 72 | 0.4 |
| Military science | 21 | 0.1 |
| Philosophy and religion | 1,780 | 9.2 |
| Physical education and leisure studies | 2,124 | 11.0 |
| Psychology | 108 | 0.5 |
| Public administration and social service | 48 | 0.3 |
| Social science and social studies | 553 | 2.9 |
| Interdisciplinary studies | 19 | 0.1 |
| Other and not reported | 1,075 | 5.6 |

Source: USDHEW, NCES, 1979, p.20.

activities were: visual and performing arts, home economics, physical education and leisure studies, and engineering and engineering-related technology.

In addition to the free universities, the NCES study identified 42 campus learning referral centers that served 21,480 students in 1978 as education brokers and learning networks for people seeking information about teaching, skill training, and tutorial services. Learning referral centers include the innovative learning exchanges - telephone referral services that put people who are interested in learning about a particular topic in touch with someone interested in teaching about that topic, after which the two parties work out all further arrangements. According to Peterson et al, "the free universities and learning exchanges are both extremely important models for serving the vast numbers of learners who are not motivated by the desire for credits and credentials" (1978, pp. I-50-51).

Correspondence Instruction

Correspondence instruction refers to all individual programs of education or training undertaken through the mails, whether on a strictly individual basis or as part of involvement in an institutional setting (e.g. through a university extension division). Correspondence courses provide the opportunity for individuals who either do not have access to formal education programs or who do not wish to participate in them to engage in self-directed programs of instruction which may or may not result in some form of accreditation or certification.

Correspondence learning occurs in all areas of life and cuts across the boundaries of education and training opportunities offered by other organizations discussed earlier in this paper. Among those groups making use of correspondence instruction are colleges and universities, the federal government and the military, and professional and community organizations. Correspondence courses offer these groups the means to serve a varied and far-flung membership who might otherwise be unable to participate in an organized learning opportunity.

Among the most popular subjects offered through correspondence are business, high school equivalency courses, electronics, engineering, other technical and trade areas, and art.

According to a recent survey conducted by the National Home Study Council of institutions offering correspondence courses, there are approximately four million correspondence students in the U.S.: 67 percent are enrolled in private schools; 6 percent in federal and military "schools"; 21 percent in colleges and universities; 3 percent in religious schools; and 3 percent in business and industry. According to the 1975 NCES participation in adult education survey, however, only 606,000 individuals indicated that they were participating in courses sponsored by a correspondence school (p. 60). Some of the discrepancy is apparently due to differing definitions in each survey as to what constitutes a correspondence school or course.

The National Home Study Council estimates that those schools which did not respond to its survey have enrollments of approximately 300,000 and that, in addition, there are about 105,000 students enrolled in agricultural and home making noncredit courses with land grant colleges. Including these two sources brings the total estimate to 4,324,850.

TABLE J.

NUMBER OF STUDENTS ENROLLED IN CORRESPONDENCE COURSES, 1973

| | Number of Schools Reporting | Number of Students |
|---|---|---|
| NHSC Member School | 155 | 1,062,749 |
| Other Private Home Study Schools | 94 | 245,687 |
| Total Private Schools | 249 | 1,308,436 |
| Federal and Military | 22 | 1,871,978 |
| Colleges and Universities | 77 | 393,741 |
| Religious | 12 | 317,458 |
| Business and Industry | 14 | 28,237 |
| Total of All Schools | 3,374 | 3,919,850 |

Source: National Home Study Council, 1973.

In a more recent (1978) study of its member institutions, the National Home Study Council determined that, within the "typical" NHSC institution, the average student is between 25-34 years old; three out of every four students are male; and the courses offered (which typically take about twelve months to complete) have primarily vocational objectives.

Private Instruction

The 1975 NCES survey revealed that 1,184,000 participants in adult education chose to study with a tutor or private instructor. This category would likely include "paid experts" (professionals for whose services fees are charged) as well as "experts who are also a friend or relative." In fact, it is most probable that the latter category supplies the largest number of tutors, given the fact that in Penland's 1977 survey of self-planned learning, the "expert who was also a friend or relative" was cited as the most important source that learners and non-learners alike sought when they wanted to know something or get information on a subject (Penland, 1977, pp. 46-47). Most of the information obtained from the expert-friend or expert-relative would usually be free of charge. This option of private instruction is one that is frequently favored by older adult learners, who may be particularly hesitant to participate in a more formal, institutional learning situation with a majority of younger students.

## In Summary

Having concluded our survey of education and training opportunities for adult learners in school and non-school organizations, we now have some idea of who the education and training providers are and how many participants are taking advantage of these learning opportunities. Nonetheless, Wirtz and Goldstein's doleful statement of four years ago is still applicable today:

> ...the short of it is that there is simply no comprehensive or integrated system of work training measurements in the United States. Millions of young Americans are now selecting education and work training courses, and in effect shaping their life patterns, on the basis of badly informed assumptions and often misleading information about the work prospects ahead of them. Billions of dollars are being spent on educational and training systems and structures reflecting these same rootless assumptions. While a considerable amount of relevant data is available regarding pieces of this picture, they are presently in such form as to almost defy putting them together (Wirtz and Goldstein, 1975, p. 27).

While we may have more pieces of the picture today, the preceding inventory has shown that they still do not fit neatly together, and several major pieces are still missing. A large number of the efforts currently being undertaken in regard to the provision of data on education and training in the United States focuses on occupational demand through information on current and projected employment figures. We have much less data (and in some cases serious gaps) in the area of occupational supply - the numbers and characteristics of people engaging in and completing training and education. This paper serves to document both Wirtz and Goldstein's lament and the statement in Public Law 94-444 (which established the National Commission on Employment and Unemployment Statistics) that "the formulation of public policies to promote the most effective use of our human resources is hindered by inadequate information on the utilization and effect of education and training programs."

## III. RECOMMENDATIONS

Our own attempts at presenting a comprehensive picture of education and training opportunities for adults in the U.S. reveal that, although some information on formal training and education activities in specific categories is compiled and accessible (e.g. federal employment and training programs), little information is available for others (e.g. professional associations) and, in some cases, what information is available is confusing, contradictory, and incomplete (e.g. that for private industry). What is needed is a comprehensive and continuing inventory of training and education activities in particular categories, as well as information on the effectiveness of these programs as a source of supply in individual occupations and in meeting the personal objectives of the individual participants.

Such an effort would require combining two sets of surveys: (1) of institutions providing the education and training and (2) of individuals participating in that education and training. The institutional surveys (such as those conducted by NCES) provide information on institutional characteristics such as kind, location, size, faculty, control, courses, and expenditures, as well as enrollment and completion figures and retention rates. Surveys of individual participants (such as those conducted through the Current Population Survey) provide information on personal characteristics and activities, in addition to previous education and work experience.

The kinds of information that need to be collected through both surveys include:

1) the number of persons completing education and training by type of program and field;

2) the characteristics of the individuals entering and completing education and training;

3) the institutional and individual objectives or purposes in offering or engaging in the particular program;

4) the length of training or education;

5) costs of participation; and

6) sponsor(s) of payment.

Additional data and research are also needed regarding the effectiveness of the various education and training programs. We need more information on:

1) what proportion of people who complete a particular education or training program actually enter the field for which they are trained or receive a promotion or move on to a "better" job;

2) how many of those who enter the field for which they are trained leave it after a relatively short period and why; and

3) what is the impact of education and training on employee productivity, on employee mobility vis a vis career ladders, and on absorption of previously disadvantaged workers into the regular force.

One of the most perplexing problems in attempting to develop a comprehensive and continuing inventory of education and training activities is exemplified in the fact that, according to one study, there are 300 programs operated by 29 federal agencies that are concerned with adult learning. How do we go about standardizing and synthesizing the information from some, if not all, of these programs? Some efforts are already underway that could form a significant part of a comprehensive

education and training structure supply data system. The National Occupational Information Coordinating Committee (NOICC) is charged with "developing and implementing an occupational information system...at the National, State, and local levels, which system shall include data on occupational demand and supply based on uniform definitions, standardized estimating procedures, and standardized occupational classifications;..." (emphasis added; NOICC, 1979, p. 3).

The four NOICC member agencies consist of the Office of Education, the National Center for Education Statistics, the Employment and Training Administration, and the Bureau of Labor Statistics, each of which bears responsibility for a large number of education and training data collection and analysis activities. The NOICC, while not a primary data collection agency itself, is responsible for coordinating such efforts among its four member agencies and has adopted the Standard Occupational Classification system of the Department of Commerce's Office of Federal Statistical Policy and Standards and the Occupational Employment Statistics Program of the Department of Labor. In addition, the NOICC, in developing a national occupational information system (OIS), has stated that it will utilize as principal input data available from the following sources:

- Vocational Educational Data System (VEDS)
- Higher Education General Information Survey (HEGIS)
- State and National Apprenticeship System (SNAPS)
- Comprehensive Employment and Training Act (CETA)
- U.S. Employment Service (USES)
- Unemployment Insurance Service (UIS) (NOICC, 1979, p. 20).

At the current time, state OIS development varies considerably. While some states are already generating sophisticated data on state-level occupational supply, others are just getting off the drawing boards and face a lengthy developmental period. At the national level, the NOICC is promoting two studies which will considerably enhance our data on education and training participants in several categories.

The first study focuses on the similarities and differences of current surveys aimed at obtaining follow-up data on the placement of completers of public and private vocational programs. These surveys include those conducted by the Veterans Administration, the Federal Interagency Committee on Education, and the Employment and Training Administration. It is hoped that this study will contain recommendations for better reliability, coordination, and comparability of data.

The second study is designed to facilitate the collection of state-specific data on public and private postsecondary schools and students. Institutional information is being collected on enrollment, programs, program completers, program leavers, continuations, changes, and length of program. Individual data include demographic characteristics, education and work history, current program of study, and problems encountered.

Both of these studies will provide us with a variety of data critical to future program and policy developments in the education institution sector. What NOICC is not going to provide, however, is information on education and training efforts within private industry and business. A separate, companion effort would have to be undertaken here.

It has now been more than eleven years since the Report of the Task Force on Occupational Training in Industry called for "a major research effort...to fill such basic informational gaps as the need for detailed and up-to-date information on the nature, extent, cost, and quality of occupational training in private industry; the relative effectiveness of the various types of training programs..." In response to this report, the Bureau of Labor Statistics conducted a pilot survey of training in private industry whose objective was "to study the feasibility of collecting data on enrollments and completions of occupational training, and to determine the best method of collecting these data" (Neary, 1974, p. 26). Based on the results of this study, BLS concluded that "data on training activities in private industry can be collected effectively" and recommended using mail surveys as the basic collection method (Neary, 1974, p. 31).

Following on this pilot study, BLS conducted the study of metalworking plants, referenced earlier in this paper. Despite the conclusion, resulting from both the pilot and the metalworking surveys, that collection of data on industry training was feasible, no additional survey of training and education provided by employers has been conducted or is planned by the Department of Labor. It is recommended that serious consideration be given to developing a comprehensive program of data collection on training and education opportunities provided employees by private industry and business.

Using the data generated by the surveys recommended herein, we might be able to speak with much greater certainty about the current structure of education and training opportunity for adult learners and how well this structure is serving the needs of workers and work institutions in the United States. Until then, we shall have to make do with the best

estimates of this paper and other studies seeking to put all the many pieces of the education and training picture together.

## IV. REFERENCES


Abbott, William. "College/Labor Union Cooperation." Community and Junior College Journal, April 1977.

Blount, W. Frank. "Testimony Prepared for the U.S. Senate Committee on Labor and Human Resources in its Hearing on 'The Workplace and Higher Education: Perspectives for the Coming Decade.'" June 6-7, 1979.

The British Open University Foundation, Inc. An Occasional Newsletter, #4 (March 1979): 1-3.

Brown, C. A. "Municipal Training Programs: 1975." Urban Data Service Reports #8. International City Management Association, 1976.

Carnegie Commission on Higher Education. Toward A Learning Society. New York: McGraw Hill, 1973.

Carp, Abraham; Peterson, Richard; and Roelfs, Pamela. "Adult Learning Interests and Experiences." In Planning Non-Traditional Programs, pp. 11-52. Edited by K. Patricia Cross, John R. Valley and Associates. San Francisco: Jossey-Bass Publishers, 1974.

Charner, Ivan. Patterns of Adult Participation in Learning Activities. Washington, D.C.: National Manpower Institute, 1979.

_____. "Union Subsidies to Workers for Higher Education." In Subsidies to Higher Education: The Issues. Edited by Howard P. Tuckman and Edward L. Whalen. Praeger Publishers, in press.

Charner, Ivan; Knox, K.; LeBel, A. E.; Levine, H. A.; Russell, L. J.; and Shore, J. E. An Untapped Resource: Negotiated Tuition-Aid in the Private Sector. Washington, D.C.: National Manpower Institute, 1978.

Cross, K. Patricia; Valley, John R.; and Associates. Planning Non-Traditional Programs. San Francisco: Jossey-Bass Publishers, 1974.

Employment and Training Report of the President. Transmitted to the Congress, 1978. Washington, D.C.: GPO.

GED Testing Service of the American Council on Education. The GED Statistical Report, 1977. Washington, D.C.: ACE, 1977.

Gilbert, Thomas F. "The High Cost of Knowledge." Personnel Magazine (March/April 1976): 9-23.

Gleazer, Jr., Edmund J. "Testimony on Alternative Missions for Higher Education in the 80's." Prepared for the U.S. Senate Committee on Labor and Human Resources, June 7, 1979.

Godfrey, Eleanor P., and Holmstrom, Engin I. Study of Community Colleges and Vocational-Technical Centers, Phase I. Washington, D.C.: Bureau of Social Science Research, Inc., 1970.

Goldstein, Harold. Training Provided by Industry. Washington, D.C.: National Manpower Institute, forthcoming.

Greenwald, Stanley M. "Survey of Professional Society Continuing Education Programs." Xeroxed. N.d.

Gross, Ronald. The Lifelong Learner. New York: Simon and Schuster, 1977a.

_____. New Paths to Learning: College Education for Adults. New York: Public Affairs Committee, Inc., 1977b.

Houle, Cyril O. The External Degree. San Francisco: Jossey-Bass Publishers, 1973.

Koester, Otto. "Occupational Education at the Postsecondary Level--Future Markets and Federal Policy Options." In Higher Education in the 1980's: Declining Enrollments, New Markets and the Management of Decline, pp. 94-112. Center for Educational Policy, Duke University, May 1979.

Lusterman, Seymour. Education in Industry. New York: The Conference Board, 1977.

Macken, E. et al. Home-Based Education: Needs and Technological Opportunities. Washington, D.C.: National Institute of Education, 1976.

Moses, Stanley. "The Learning Force: 1975." Xeroxed. Submitted in fulfillment of a contract with the Division of Adult Education, Office of Education, August 1975.

Mushkin, Selma J., ed. Recurrent Education. Washington, D.C.: National Institute of Education, March 1973.

National Commission on Employment and Unemployment Statistics. The Adequacy of Occupational Data on Employed and Unemployed Workers for Analyzing Labor Market Behavior, by Harold Wool. Washington, D.C.: GPO, June 1978.

_____. Counting the Labor Force - Preliminary Draft Report of the National Commission on Employment and Unemployment Statistics. Washington, D.C.: The Commission, January 1979.

National Home Study Council. The 1978 Home Study Survey. Washington, D.C.: The Council, n.d.

_____. "Over Four Million Studying by Correspondence." News Release. Washington, D.C.: The Council, 1973.

National Occupational Information Coordinating Committee. The Status of the NOICC/SOICC Network, May 1, 1979. Washington, D.C.: NOICC, 1979.

Neary, H. James. "The BLS Pilot Survey of Training in Industry." Monthly Labor Review 97 (February 1974): 26-32.

Nolfi, George. "The Lifelong Learning Marketplace." Paper Prepared for the HEW/OE Lifelong Learning Project, 1977.

Penland, Patrick R. Self-Planned Learning in America. Pittsburgh: University of Pittsburgh, 1977.

Peterfreund, Stanley. "Education in Industry-Today and in the Future." Training and Development Journal (May 1976): 30-36.

Peterson and Associates. Lifelong Learning in America: An Overview of Current Practices, Available Resources, and Future Prospects. San Francisco: Jossey-Bass, 1979.

Psacharopoulos, George. Education and Work: An Evaluation and Inventory of Current Research. Paris: International Institute for Educational Planning (UNESCO), 1978.

Ruyle, Janet, and Geiselman, Lucy Ann. "Non-Traditional Opportunities and Programs." In Planning Non-Traditional Programs, pp. 53-94. Edited by K. Patricia Cross, John R. Valley, and Associates. San Francisco: Jossey-Bass Publishers, 1974.

Seaton, C. Report on Formal Instructional Programs by Business, Industry, Government and Military in California. Sacramento, CA: California Postsecondary Education Commission, 1977.

Sharp, Laure M. "Viewpoint - External Degrees: Myths and Realities." Change (July-August 1979): IV, V, and 70.

Shore, Jane. The Education Fund of District Council 37: A Case Study. Washington, D.C.: National Manpower Institute, September 1979.

Smith, David. A. An Overview of Training in the Public Sector. Arlington, VA.: The Analytic Sciences Corporation, June 6, 1979.

Special Analyses, Budget of the U.S. Government, FY 1978. Washington, D.C.: GPO.

Stein, Bruno, and Miller, S. M. "Recurrent Education: An Alternative System." New Generation 54 (1972): 1-8.

Stewart, Charles D. Worklife Education and Training and the Ordeal of Change. Washington, D.C.: National Manpower Institute, forthcoming.

Tough, Allen, M. The Adult's Learning Projects: A Fresh Approach to Theory and Practice in Adult Learning. Toronto: Ontario Institute for Studies in Education, 1971.

Tracey, William R. Managing Training and Development Systems. New York: American Management Association, 1974.

"Trade Act of 1974, HR 10710, As Passed by Congress and Signed by the President." Daily Labor Report, Special Supplement, January 3, 1975, p. 16.

Union for Experimenting Colleges and Universities. "Press Release: January 28, 1971."

U.S. Department of Agriculture. Extension Service. Cooperative Extension Service Programs: A Unique Partnership Between Public and Private Interests. Washington, D.C.: Extension Service, 1976.

U.S. Department of Health, Education and Welfare. Lifelong Learning Project. Individuals, Learning Opportunities, and Public Policy: A Lifelong Perspective, 1978a.

_____. _____. Lifelong Learning in the Nation's Third Century. Washington, D.C.: GPO, 1977a.

_____. National Center for Education Statistics. Adult Education in Community Organizations, 1972, by Evelyn R. Kay. Washington, D.C.: GPO, 1974.

_____. _____. The Condition of Education, 1979 Edition. Washington, D.C.: GPO, 1979.

_____. _____. Continuing Education: Noncredit Activities in Institutions of Higher Education, 1975-76, by Florence B. Kemp. Washington, D.C.: GPO, 1977b.

_____. _____. The Digest of Education Statistics 1977-78. Washington, D.C.: GPO, 1978b.

_____. _____. Free Universities and Learning Referral Centers 1978. Washington, D.C.: GPO, 1978c.

_____. _____. Participation in Adult Education, Final Report 1975, by Ruth L. Boaz. Washington, D.C.: GPO, 1978d.

_____. _____. Women in Vocational Education, by Evelyn R. Kay. Washington, D.C.: GPO, 1978e.

U.S. Department of Labor. Bureau of Labor Statistics. Occupational Training in Selected Metalworking Industries, 1974. BLS Bulletin 1976, ETA R&D Monograph 53 (1977).

University Without Walls: First Report. Yellow Springs, OH.: UECU, February 1972.

Wilms, Wellford W. The Effectiveness of Public and Proprietary Occupational Training. Prepared for the National Institute of Education, 1974.

Wirtz, Willard, and Goldstein, Harold. A Critical Look at the Measuring of Work. Washington, D.C.: National Manpower Institute, 1975.

Wirtz, Willard, and the National Manpower Institute. The Boundless Resource: A Prospectus for an Education/Work Policy. Washington, D.C.: The New Republic Book Co., 1975.

Ziegler, Jerome M. "Testimony Before the Senate Committee on Labor and Human Resources," June 7, 1979.

The National Institute for Work and Learning (formerly the National Manpower Institute) is a private, not-for-profit, policy research and demonstration organization established in Washington, D.C. in 1971. NIWL is concerned with encouraging public and private sector policies and practices that contribute to the "fullest and best use of the life experience"; with eliminating artificial time-traps which segment life into youth for schooling, adulthood for working, and the rest of life for obsolescence; and with a more rational integration of education, employment and training, and economic policy.

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